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CINEMA 4D Applying lighting in a sci-fi scene

3ds Max Make undead pirates and floating worlds

ZBrush Sculpt the chiselled features of a boxer

DAZ Studio 3
Advanced version reviewed

05

TM

3DArtist

Practical inspiration for the 3D community

3ds Max tutorial

Master skin tones

Use subsurface scattering to create realistic, sweaty skin

Create a glass world

Make a transparent glass paludarium from splines and fill it with 3D objects

Learn to create

AMAZING 3D IMAGES

Model and render this cover image using 3ds Max

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How to model a city waterfront scene

Your questions answered Dripping blood

Add it to weapons using Maya

Plus: Plastic Wax on game cinematics, a huge mocap studio and the Ashes

Reviews: Ozone 4, Quidam 3, DAZ 3D Studio 3 Advanced, EISO 8.0, Vue 7.5

inside

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DAZ 3D special Kay
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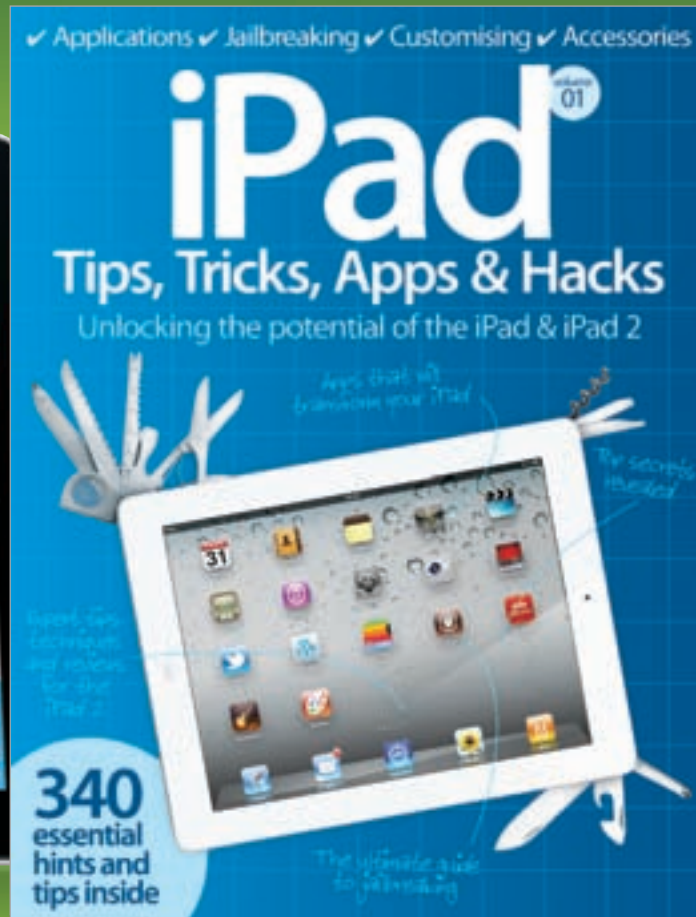
The classic Sixties series gets given a fresh coat of CGI paint

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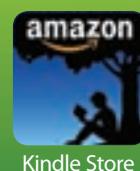
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Zaw Ye Myint

3DArtistonline
Username ZawZaw

Personal portfolio site
<http://putooxor.deviantart.com/>

Country Myanmar

Software used 3ds Max,
ZBrush and Photoshop

Cover artist



What a perfect and charming image for the summer. The real skill here is in the way that Zaw Ye Myint has given the image the look of a fake toon shader through a careful choice of colour and materials, as well as meticulous postproduction work in Photoshop.



Welcome

to the magazine and 116 pages of 3D goodness

Every issue you can count on...

- 1 **116 pages of creative inspiration**
- 2 **Behind-the-scenes guides to images and artwork**
- 3 **A CD packed full of creative goodness**
- 4 **Interviews with inspirational artists**
- 5 **Tips for studying 3D or getting work in the industry**
- 6 **The chance to see your art in the mag!**



Summer has arrived this month with blue skies and soaring temperatures. Unless you're in the southern hemisphere, in which case it's probably snowing. In fact, while my PC is pumping out heat like a blast furnace, our friends over at Plastic Wax in Australia would probably be glad of the warmth as it's winter. See what they've been up to in the world of game cinematics on page 42. Our main feature this month will take you back in time to the late 1960s when the future consisted of shiny spaceships and cardboard sets. Yes, it's the original *Star Trek* – see how it's been given a new lease of CGI life for Blu-ray and DVD on page 36.

Duncan Evans,
Editor

This issue's team of expert artists...



Mark Bremmer

Mark delves into the world of DAZ Studio 3, which is the new version of everyone's favourite free rendering software



Ryan W. Knope

Ryan has been a busy chap this month with tutorials on an incredible fish tank as well as a city waterfront scene



Zaw Ye Myint

Just how do you make a render look like it's a cartoon rather than 3D? Read on and find out with Zym's tutorial



Lance Hitchings

Lance runs a design studio stateside, and is also the chap manning the Q&A help desk for your 3D problems



Jeff Miller

Surely there's no finer sight than two mighty pugilists beating the hell out of each other. Jeff pays homage with amazing detail



Lee Davies

Lee is employed as a character modeller for a Dublin-based company. He's here to answer your character questions



April Madden

April is deputy editor on *Corel Painter Magazine* and a graphic artist. She's been reading all this month's books again



Rosie Tanner

Investigating the courses that matter at a university near you, Rosie is our very own blonde-haired Donald Macintyre



Luis Arizaga

Fans of adventure games of yore will recognise the character being paid homage by Luis. It's an undead pirate!



Sarah Slee

Word up. Sarah is down with the homies making cool 3D images in da' ghetto. She's so street. Honest...



John Hayes

John works as a character artist for Sega and is a genius for model design. That's why he's our go-to Q&A man



Christian Darkin

When we've got something mind-bendingly large to review, we give it to Christian. He hasn't left home for months

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3DArtist

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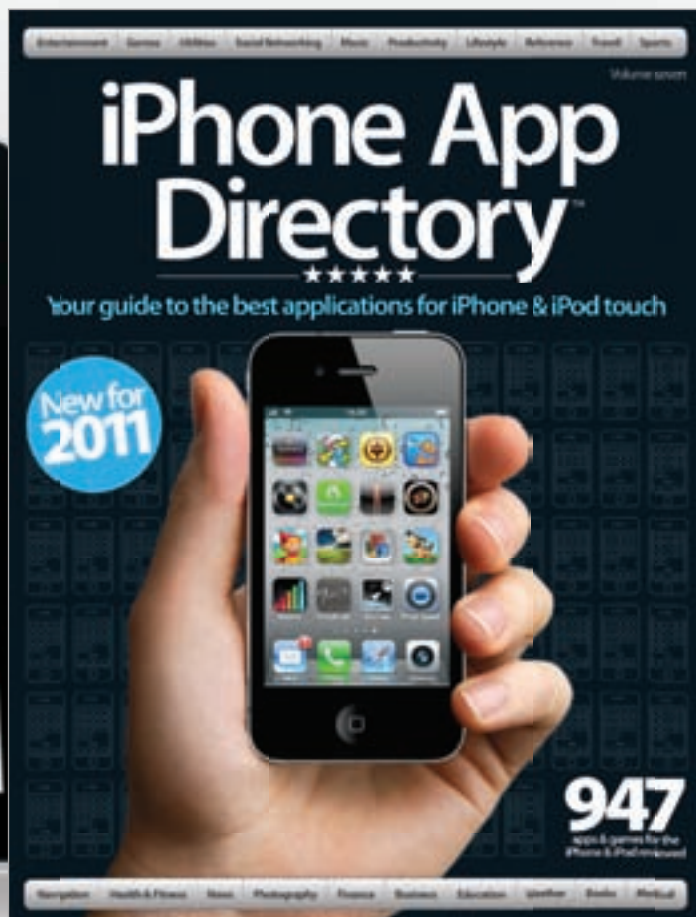


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It's a jungle out there. Swing through it



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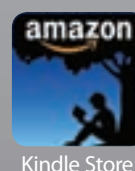
★★★★★

The definitive review listings for iPad, iPhone and Android apps

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Discover how these images were created...

Create a sculpted boxer

“He started out as a simple anatomy study in ZBrush, but as I sculpted I started to see the face of a rugged boxer emerge”

Six-page step-by-step walkthrough guide

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The Studio

Professional 3D advice, techniques and tutorials

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Fabulous water, great expressions, killer concept

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Ryan W. Knope explains how he created a city waterfront scene from modelling to lighting

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See how Jeff Miller sculpted the physique of this stunning pugilist in ZBrush

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“The goal was to create an extremely detailed rendering you could look at for quite a while”

Ryan W. Knope on the aim for the image, *As Humans control nature*. Page 48

DAZ 3D Kay special: Free Kay model

A special bundle for DAZ Studio/Poser/Carrara with Kay, leather outfits and a lair

Plus two-hour Maya video, HDRI and seamless textures

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Free: Maya video
Two hours! Turn to page 112 for details

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“The audience will not only be able to see the model of delicate, life-like materials but the beautiful light and history too”

Xiaoge Liu on re-creating Chinese culture. Page 30

workspace^{3D}

Inside guide to industry news, studios, expert opinion & education



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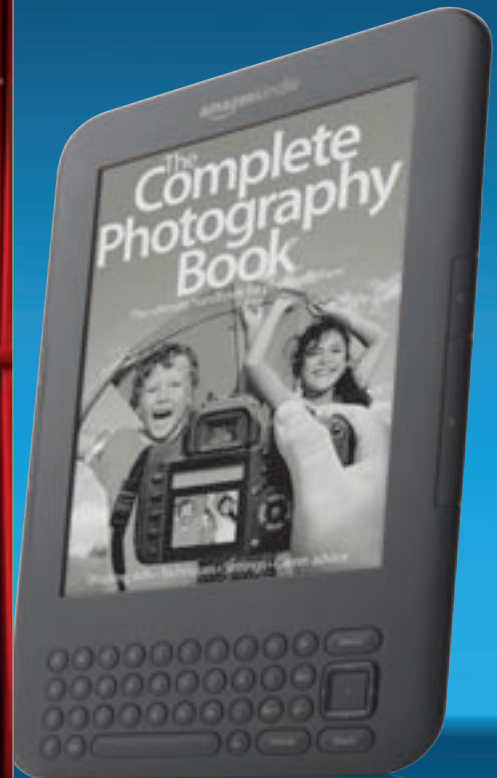
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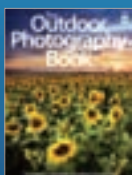


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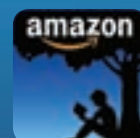


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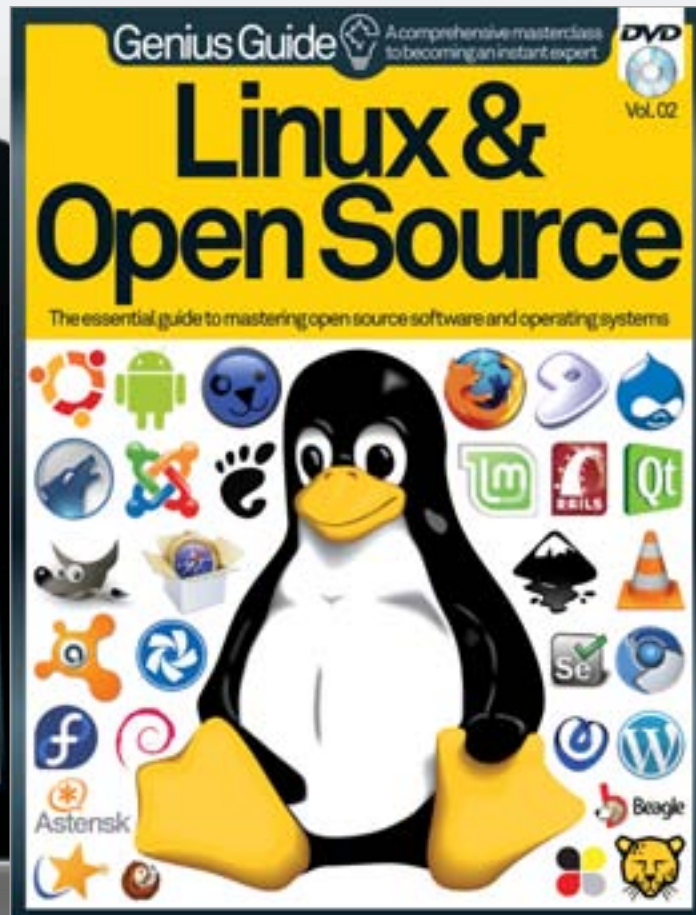


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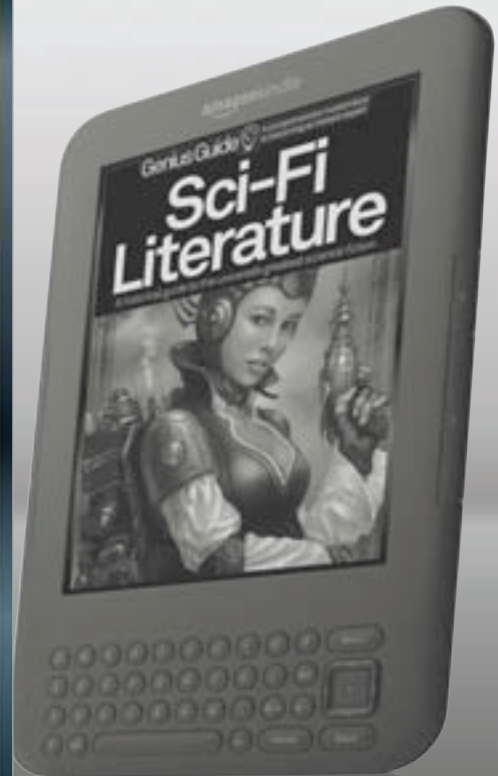
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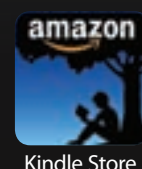
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WELCOME TO THE GALLERY

11 pages of great artwork from the 3D community

Images we love!



“ A lot of my inspiration came from the artist Alvaro Tapia, a true master of drawing trolls. Also, from the old paintings made by the Swedish fairy-tale illustrator, John Bauer ”

Jonas Valentin Persson
Portrait of a troll, 2008

Artist info



Jonas Valentin Persson

Personal portfolio site
<http://jvalentin.cgsociety.org/gallery/>

Country Sweden

Software used Maya, Mudbox,

Featured artists

Jonas Valentin



What fabulous textures and superb modelling on the troll!

Olivier Defaye



Taking a well known location and having some CGI fun with it

Seokchann-yoo



Sexy sci-fi girl in a great outfit and armed to the teeth as well

Ehsan Azzuz



A lesson in how to take a Poser model and make a great image

Andrew Averkin



Insane amount of detail - check out all the cogs and nuts and bolts

Adriana Salinas



Thoroughly charming French patisserie in a Paris street

Mark S. Alameel



A great piece of advertising imagery for the company

Ian Spriggs



Fair comment really. Ian sticking it to the bankers in classical style

Sherif Eid Soliman



Gorgeous piece of interior design with amazing colours

Get your artwork featured in these pages

Simply send it to the 3D Artist Gallery. Here's how...

Comment on more great 3D art...

Head straight over to www.3dartistonline.com, register and you can leave comments for other artists. Some of the people featured here already have their galleries, so get online and join our club!

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3. Tell us about them!

Have an image you feel passionate about? Drop editorial an email at duncan.evans@imagine-publishing.co.uk.

Email or post

You'll be missing out on a thriving 3D community, but if you'd rather submit your work by email or post, here's how. Make sure your image is at least 3,000 pixels on the longest side, save it as a maximum quality JPEG or zip it up as a TIFF and email it to the address below. Please include your contact details! If you've created a Pixar-beating animation and want to see that featured on the cover CD, then save it onto a CD and post it to us. You can also send your images on CD. The addresses are:

duncan.evans@imagine-publishing.co.uk

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Artist info



Olivier Defaye

3DArtistonline

Username Mrbonbon

Personal portfolio site
www.kindadirectors.com

Country France

Software used 3ds Max,
Photoshop

“ This image is the first of a series of three with the idea that the buildings we made are now growing by themselves. I began by shooting the Eiffel Tower with a Nikon D3. I modelled in 3ds Max, while compositing was done in Photoshop ”

Olivier Defaye for AOKIstudio and CGWORLD Growing without you, 2009



The team
LOVES

“ What is so clever is to take a great concept using a well known landmark and integrate the CGI into it so skilfully ”



Jo Editor in Chief



Artist info



Seokchan-yoo

3DArtistonline

Username Digieyes

Personal portfolio site

<http://blog.naver.com/bbyag2/>

Country South Korea

Software used Maya, Photoshop, mental ray

Work in progress...



The team
LOVES

“ Sexy sci-fi females with large guns always get the thumbs up in my book, and this one with the nicely textured outfit is a winner ”



Duncan Editor

“ This piece centres around the wonderful thoughts of tomorrow’s world. The basic model is from Poser, but then all the extras were added in XenoDream and the file was rendered with Vue 7. Postproduction work was done with Photoshop ”

Ehsan Azzuz *Future Norm*, 2009

Artist info



Ehsan Azzuz

3DArtistonline

Username EhsanA

Personal portfolio site

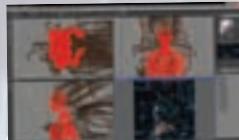
<http://ehsana.deviantart.com/>

Country USA

Software used Poser,

XenoDream, Vue 7, Photoshop

Work in progress...



The team
LOVES

“ Like some kind of crazy sci-fi flick, this is a super image, taking a basic Poser model and transporting it far into the future. Great ambience and lighting ”



Duncan Editor

Artist info

**Andrew Averkin****3DArtistonline**

Username Andrew

Country Odessa, Ukraine

Software used 3ds Max, V-Ray, FumeFX, Photoshop

Work in progress...



“ I had the idea to do a mechanical beetle or another insect and then make an animation of it. I hadn't done an animation of mechanical devices before, so thought this would be good training for me. I began work on the project, and during the design process I saw that the insect was turning out to look like a spider. At that point, I decided to follow it through for the finished piece ”

Andrew Averkin *Spider*, 2009

The team
Loves

“ The amount of work that's gone into all the little cogs and wheels on this mechanical spider is insane. A great idea and an excellent background environment to put it in ”

**Jo** Editor in Chief

THE GALLERY

“ For this piece, I was looking for different references of the city of Paris. I wanted to have an Art Nouveau style, as I find it fascinating. For the patisserie, I used a French restaurant called Le Petit Zinc as a reference, as it is very characteristic of this period. For the murals, I used five images by Alphonse Mucha ”

Adriana Salinas *Patisserie*, 2009

The team
Loves

“ A delightful French street scene showcasing a charming patisserie. The textures and references for this are perfect, really capturing the spirit of Paris ”



Ross Head of Design



Artistinfo



Adriana Salinas

Personal portfolio site
<http://demumy.blogspot.com/>

Country Spain

Software used 3ds Max, V-Ray,
Photoshop, UVLayout

Work in progress...



The team
Loves

“ A classical Greek pose and style, but updated for a future robot design. Super, shiny image ”



Jo Editor in Chief



Artist info



Mark S. Alameel

Personal portfolio site
www.rendertitan.com

Country USA

Software used 3ds Max,
CINEMA 4D, Photoshop

Work in progress...



“ Our goal was to create an advertising mascot that focused on the ‘TITAN’ aspect as well as referenced technology. We also wanted to incorporate the feeling of speed. We settled with a comic book feel (the overall shape, the bright colours, action poses, etc). For variety, we also did a few subtle high-contrast shots in order to show different lighting ”

Original modeller: **Ryan Rodriguez** (3ds Max) Modeller (accessories): **Travis Steinbring** (3ds Max)
Final modeller, rigger and rendering: **Jay Garcia** (CINEMA 4D with V-Ray)
Art director, concept and postproduction: **Mark S. Alameel** (Photoshop and paper) RenderTITAN Presents RoboTITAN, 2009

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“ This piece is inspired by the current economic events. The characters simultaneously embody the mixed emotions of anger and desire towards capitalism. This was modelled in Maya, rendered in mental ray and textures were done in Photoshop ”

Ian Spriggs *The Subversion of Capitalism*, 2009

The team
LOVES

“ Given the economic malaise gripping the world, it's about time someone put the boot into greedy bankers. This action-packed piece is reminiscent of a classical oil painting, although it has been updated ”

Duncan Editor

Artistinfo



Ian Spriggs

3DArtistonline

Username Ian3d

Personal portfolio site

<http://ianspriggs.com/>

Country UK/Canada

Software used Maya, mental ray, Photoshop

Work in progress...



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THE GALLERY

Artistinfo



Sherif Eid Soliman

3DArtistonline

Username Shdesigner

Personal portfolio site

<http://shdesigner.cgsociety.org/gallery/>

Country Egypt

Software used 3ds Max, V-Ray, Photoshop

Work in progress...



“ This is a design concept for a reception room, which is a part of a private residence in the Kingdom of Saudi Arabia. At the client's request, it has a classic style. I did the 3D model in 3ds Max, rendered in V-Ray and retouched in Photoshop ”

Sherif Eid Soliman Reception in Traditional Style , 2009



The team
Loves

“ A lovely piece of interior architecture with lots of detail to interest the eye and, of course, plenty of colour and mood. It's nice to see an interior that isn't all cold metal and plastic, too ”



Lora Group Art Editor

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Tour de force

Multiple award-winning student project exhibits at another international animation film festival, Annecy 2009

La Main Des Maitres' is a short animated film produced by three French students. Parts of it are very reminiscent of the anime films Ghost in the Shell and The Iron Giant, and it has been selected in more than 20 festivals around the world. Annecy 2009 was the most recent event to exhibit the piece, which took Clément Delatre, Looky and Adrien 'CaYus' Toupet a year to create, plus a few months of preproduction. The animation has won three awards to date.

The project was the trio's graduate short film from the Georges Méliès School in France, so the full story was written and directed by all three students. The 2D artwork

was created using Photoshop, while most of the 3D artwork was made using Maya, with the compositing done with After Effects. BodyPaint 3D was used for texturing, and enabled the team to save time by drawing directly on 3D meshes; meanwhile, 3D effects were created with Houdini.

Toupet explains: "We had a lot of pictures to show and stories to tell, but we only had one year to spend working on it as a three-man team. We had to make a lot of choices in order to be able to finish this movie in time with the visual quality we wanted. Some people are frustrated because they wish they could know more about the story, while others just enjoy it for what it is." www.lamaindesmaitres.com.

“We had to make a lot of choices in order to be able to finish this movie in time with the visual quality we wanted”

Adrien 'CaYus' Toupet co-creator of 'La Main Des Maitres'

3DArtist
online.com

Have you seen this animation short or have one of your own? Discuss them at www.3dartistonline.com/forum



Shiny new Area

Autodesk has revamped its digital entertainment and visualisation community site, **Area**. It's a place where people can upload their work, look for jobs and chat with fellow artists. Users will be pleased to know that the update has meant the forum's received a bit of a makeover; Autodesk has also provided Area's members with a better image-upload system. In addition to that, your homepage is customisable - there's an improved profile section and a new image gallery, too.

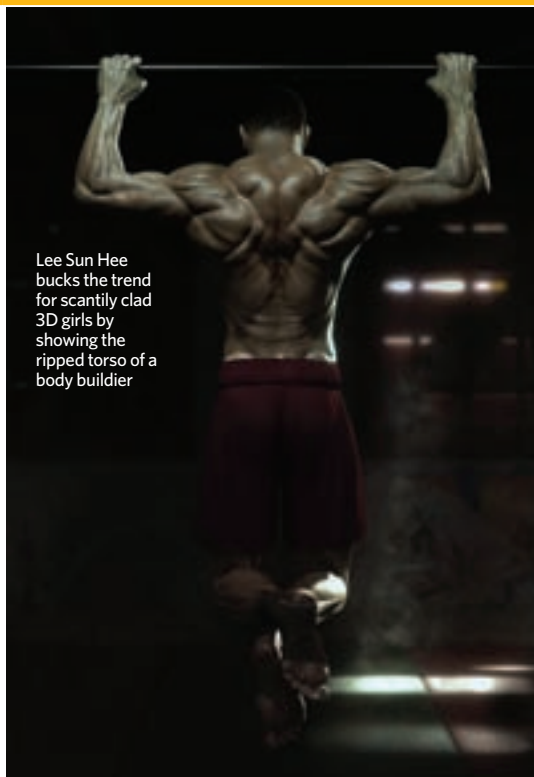
It's free to join Area and it's a pretty handy resource, so you should check it out at <http://area.autodesk.com/>.



Eat3D's high-res fountain

Learn how to create your very own high-resolution model of a fountain from scratch with the latest how-to supplied by **Eat3D.com**. The instructor Riki Babington takes you through each stage of production on a two-disc demonstration that lasts eight and a half hours.

Among the tools and techniques that Babington uses throughout the videos are stencils in Mudbox and ZBrush, the new Graphite Modelling tools in 3ds Max 2010 and MeshLab in order to optimise your meshes. The DVD is available to buy for \$64.95 or you can download it from http://eat3d.com/fountain_highres/ for a more economical \$54.95.



Lee Sun Hee bucks the trend for scantily clad 3D girls by showing the ripped torso of a body builder

Masterpiece Building up one's body



Lee Sun Hee has bucked the trend of the notion that 'men like women and women like women' in 3D art

Lee Sun Hee <http://blog.naver.com/sun2974/>

We all know that there are many images of scantily clad women kicking around the 3D art forums; however, South Korean artist Lee Sun Hee has bucked the trend and created **Building up one's body** - a model of a muscle-bound man. She found her inspiration from a picture she saw while searching for tutorials on creating a male figure.

The image took her two months to create, using 3ds Max and ZBrush, while the textures were made in Photoshop. The former 2D character designer says: "3D [art] attracted me in a way because it can express everything more vividly." Judging by the superb muscle definition portrayed in this piece of 3D art, we are very much inclined to agree.



In View

3D animation and VFX competition

If you've created a short using 3D animation and VFX in the last four years, then **View 2009** wants to hear from you. The computer graphics conference is running a competition that's open to both students and professionals. There are five categories (Best 3D Short, Best 3D Design, Best Environment Design, Best 3D Digital Character, Best 3D Digital Effects) and it's a great opportunity for artists to get their names out there.

View 2009 is held in Turin, Italy from 4-7 November 2009. The deadline for entries is 15 October. For more, visit <http://www.viewconference.it/view-award-2009>.



Story time

Introducing 3D illustrations for children

Dusty - Prasnjavko is a book for children, written by Croatian author Zelimir Hercigonja. It's about an elf living in an attic and is presented in a comic book layout with 3D illustrations. Nenad Pantic produced the images for this 30-page children's picture book. He explains why he took the project on and chose the style he did: "There are very few 3D picture books for children. I was also able to create rich and colourful illustrations in a reasonable amount of time using 3D and CG."

Nenad spent around 200 hours working on the illustrations. During that time he used Wings3D for modelling and UV mapping, while textures were done in Photoshop. Poser 7 was used for some additional props and characters, while environments were produced with Bryce 6. It was all put together in Blender 3D and then tweaked in Photoshop.

Most of Nenad's work is illustrations for children's books, as he adds: "I love the fantasy genre from my own childhood, when I read books about elves, dwarves and giants." See more at www.nenadpantic.com.

Website of the month

CG Society
www.cgsociety.org



Many would regard CGSociety.org as one of the best sites for digital artists out there. If you're not visiting it for the latest news, interviews and tutorials, then you're checking out the buzzing forum. There really is a sense of community spirit within these threads; members offer some great feedback and constructive criticism on each other's work - perfect if you're after a second (or third, even a fourth) opinion on your project.

If you're looking to improve your skills, you can sign up to some short online courses - you can also buy software, books and DVDs from its CGProShop.



Free 3D Resources

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Take advantage of high-quality models that cost nothing more than a few mouse clicks

3DXO

A website that offers a comprehensive collection of useful goodies for 3D artists

Web: www.3dxo.com

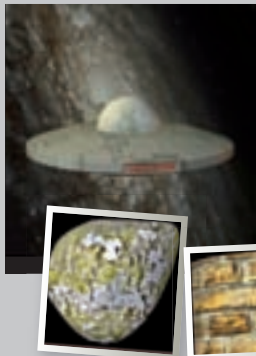


3DXO is a great website that is well organised and built with artists in mind. Its simple yet effective design and dedicated sections to models, textures, tutorials and plug-ins makes navigation a breeze. The wide selection of decent-quality models mean there's something for everyone, too. Artists can view the most popular user-rated resource downloads, or even browse through the excellent training section. We suggest that you take a look.

3DCommune

There are freebies galore on this community-driven website

Web: www.3dcommune.com



There's plenty for 3D artists on 3DCommune's website. In addition to the forum and features is its freebies. The varied mix of textures, models and scenes are organised into sections, such as Most Downloaded or New Freebies, or which software they're compatible with. Check it out at www.3dcommune.com.

3DXtras

Get your fix of models from here

Web: www.3dxttras.com



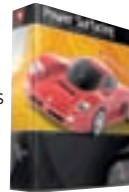
This fresh-looking website stores many different models uploaded by its members. Once registered, users have access to a good selection of models, from tuk-tuks to planes and automobiles. Each one is also given a rating, while the most popular uploaders are listed down the left-hand side. Worth a gander - www.3dxttras.com.

nPower 6.0

Power NURBS, Solids and Translators all receive an update

nPower has announced the release of version 6.0 of its programs, which also support Autodesk 3ds Max 2010. Power NURBS, Power Solids and Power Translators are pieces of software for creating complex designs, taking them from the conceptualising stage to rendering.

Support for 3ds Max modifiers means that artists can apply all manners of commands to their work, such as Ripple, Displace and Twist. Additionally, the programs now feature an improved user interface and offer a crash protection guard. To further satisfy your curiosity, you can find out more information at www.npowersoftware.com.



Render by Damian Fulmer
<http://damianfulmer.blogspot.com/>

Work in progress EMD SD60 Locomotive



Believe it or not, Jeremy Clarkson has inspired the artwork of Syrian student Faye Salka... okay, well, maybe not Jeremy himself, but his level-crossing video for *Top Gear* did

Faye Salka <http://fayezalsalka.cgsociety.org/>



All aboard! Well, maybe not as the finished image will have the train crashing into a car

True enough, as Faye Salka says himself: "Top Gear inspired me to create this image. When a train crashed into a Renault, I decided to re-create the shot in 3D." The EMD SD60 locomotive has taken the high-school student a month and a half so far. The complexity of the model itself has posed a challenge to him, but he does enjoy specialising in modelling man-made things, as well as sci-fi and mechanical objects. We look forward to seeing the finished piece - check out <http://fayezalsalka.cgsociety.org/> for more.



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Artist spotlight Back to the future



Carlos Agell Sogbe is a freelance artist from Venezuela with a passion for retrofuturism

Carlos Agell Sogbe <http://curaremac.cgsociety.org/>

Sogbe's portfolio is an eclectic mixture of the fine and fantastical. His image *Elphic Fabergé* took him around a month to complete, polishing every single detail of it. Meanwhile, the futuristic penny-farthing is proof that he likes to vary his styles greatly, as he says: "In my personal work I prefer to choose more fantastic themes, to mix apparently incompatible elements of different moments in time; the idea of fusing these things and creating new concepts appeals to me very much."

Check out more of Sogbe's work at <http://curaremac.cgsociety.org/>.



Software shorts

Get the lowdown on updates and launches

PDPlayer 1.0.2

The latest version of PDPlayer is now available. The highly rated image sequence player and viewer for the 3D, computer graphics and visual effects industry supports many different file formats, including HDR, DPX and PIC. What is also extremely useful is that multiple layers can be colour corrected as well as put together in real-time. To get your hands on a free trial version, take a trip on the information superhighway to www.pdplayer.com/downloads.html.

Anime Studio 6

The new version of MySmithMicro's Anime Studio features a redesigned interface and provides an enhanced toolset. Also on offer is motion tracking, integrated lip syncing and a variety of animation options, including using the character's skeleton or individual points on an object. There is also high-definition video support. To find out more information, visit <http://my.smithmicro.com/mac/graphics.html>.

3D Artist ⁰⁶ What's in next issue

www.3DArtistonline.com Practical Inspiration for the 3D community

RoboGirl
Lee Davies
Personal portfolio site
www.3dartistonline.com/user/leemale

Learn how this incredible image was created
Issue 6: on sale 19 August For more issue 6 information, visit www.3dartistonline.com

Tools of the trade

IPHONE 3GS

Keep in touch

Although this gadget doesn't technically (ahem) help you produce 3D artwork, it does help you keep in contact with your clients and enable you to check your emails on the move. As a freelance artist, there's surely nothing worse than not knowing if your contract or brief has arrived in your inbox yet, or if you've heard back from that job offer – the solution? The iPhone 3GS.

In addition to its fast browsing capabilities, it offers longer battery power, GPS, maps and even

a compass, so you'll always find your way to that job interview or important meeting. You can also listen to MP3s on it while you produce your works of art.

This is all without forgetting its primary function, of course, and that is to make phone calls. And you be glad to know the iPhone 3GS performs this function very well indeed. However, if you already have the iPhone 3G then it makes purchasing the 3GS difficult to recommend.



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Pigeon Impossible

Pigeon Impossible's Lucas Martell talks secret agents, shenanigans and small miracles with Sarah Slee



He's just updating his Facebook profile

Artist info



Lucas Martell

Personal portfolio site

www.pigeonimpossible.com

Country Austin, Texas, USA

Software used Softimage, Photoshop, Shake, Combustion, After Effects, mental ray

Job title Director, animator, writer and producer

Being relatively new to the world of 3D, Lucas Martell's initial aim was to explore animation for himself. He decided to choose a simple concept for

his project: a 30-second short about a man versus a cardboard box. However, after seeing a similar piece, Martell decided to evolve his idea into something different. What resulted was 'Pigeon Impossible', a high-quality CG-animated short lasting over six minutes and created on a budget of just \$10,000. The animation tells a tale of Walter, a secret agent who encounters a curious pigeon, which ends up getting inside his secret government briefcase and follows the shenanigans that ensue.

Production on 'Pigeon Impossible' lasted nearly five years. Around 100 people were involved, including musicians, audio and postproduction people – many of them volunteers. Meanwhile, there were 15 people working on the visuals. Martell explains: "Some people wore multiple hats and a few were only able to work on it for a short period of time, but it

was a fantastic crew and everyone was volunteering their time so I can't thank them enough!" He also adds: "As for the budget itself, it's worth pointing out that, with the exception of final output, we spent our entire budget on music and sound."

Sound is also where Martell had the most fun on the project. "Especially when you get to take that last pass at sound design at the very end of production. We found that just swapping an effect or even cutting things off at a different time could take a flat joke and make it hilarious."

But, like all projects, the 'Pigeon Impossible' team did face their fair share of problems. "You name it and we pretty much encountered it," admits Martell. "The big thing I learnt was just how important it is to get the story right before you jump into production. Since the story kept evolving while we were building assets, a lot of good work was thrown away."

So, would he do anything different? "Yes... I wish we had simplified the backgrounds so that they didn't fight with the

Call for entries

Have you been sweating in a badly lit basement with no air conditioning while working on your Pixar-beating animation for the last ten years? Welcome to 3D Artist's Community Showpiece, where your glorious masterpiece can be revealed to the world. If you want the kind of exposure that a two-

page spread and a trailer on the CD can bring, then drop a line to the editor at duncan.evans@imagine-publishing.co.uk. Remember, this is for completed projects, not concepts, showreels or a fevered sketch on a beer-stained napkin – go back four pages to the Community News for that!

“Around 100 people were involved, including musicians, audio and postproduction people – many of them volunteers”

Choosing a human model as a main character meant more pressure for the team because the viewers can tell if the movements and poses aren't spot-on

Below: Share and share alike... one doughnut is too much for one man, right?



characters. I also wish we hadn't done a human as the main character because that made the animation process that much slower just so we could get the weight and the poses right, since the audience is so tuned in to exactly how a human moves."

Nevertheless, Martell is still pleased with the outcome. "The important thing isn't to dwell on the problems, but to make mental notes to improve them the next time around. Besides, I've seen the movie several hundred times by this point, so I'm a bit more hypercritical of it and lost all of my objectivity years ago." The response to the finished piece has also been very positive, too.

Martell is about to embark on the festival run, where he'll have the opportunity for more feedback and, hopefully, awards. Meanwhile, for fans of the animation, the 'Pigeon Impossible' DVD will go on sale in October, with an online release in November. Fans can even purchase T-shirts, hats and stickers from the website, www.pigeonimpossible.com.



Technical considerations

Any project has its problems, and Martell talked us through some of his: "For one, the scenes were massive so just getting it to render at all was a small miracle. I definitely learnt a lot about optimisation because without proper BSP tuning and texture management, renders ground to a halt," he explains. "We also opted to use a referenced-model pipeline, which was awesome, but there were still a few problems where data got corrupted or the deltas didn't get saved. In general, though, almost all the problems we ran into were user generated and stemmed from inexperience."



'Pigeon Impossible' features some very funny moments

Project details

Time taken: Five years **Format:** Animated short

www.pigeonimpossible.com

'Pigeon Impossible' is an excellent piece, showcasing the talents and dedication of Martell and his team of volunteers. Their hard work and commitment to quality has resulted

in an animation that is funny, well produced and no doubt an inspiration to those just starting out in 3D, as well as artists currently working in the industry.



As Martell says: "I knew that I needed a good story or it wouldn't land with an audience... it isn't something you can just tack on"

Have your say

Write, email or use the website forums to get in touch about the magazine, your problems or triumphs

Send your letters to...

Email the team directly with your letter
3dartist@imagine-publishing.co.uk
Log in and leave your comments on the forum
www.3dartistonline.com/forum

POST TO:

The Editor, 3D Artist,
Imagine Publishing,
Richmond House,
33 Richmond Hill,
Bournemouth,
Dorset
BH2 6EZ, UK

Triple postage

I have read 3D World for some time as a subscriber, but didn't renew it a couple of months ago. Now I have seen an online advertisement of your magazine and would like to find out more about it. Since your (actually wonderful) 'one pound for three issues' offer is only valid in the UK, I thought it was a reasonable idea to order a few of your latest issues. But here is my problem. I wanted to order the first three issues over the internet, but for some reason the delivery costs were charged three times. This makes it rather an expensive test. Is there any way to get the three copies delivered in one package in order to get lower delivery costs?

Matthias Pahl, Berlin, Germany

Unfortunately, we charge for delivery per item since Royal Mail changed its pricing system, making the entire process more expensive. The only real way of saving money is to try an issue and subscribe if you like that, as we have a number of cash-saving schemes.

Going postal

I have to say that so far I'm enjoying the magazine, and I'm really tempted to subscribe (although only postal horrors are stopping me!). I would really like to see this become a magazine of its own and take on the big boys. Anyway guys, keep up the good work, you can only get better!

GhostWulf, via the forum

It is really rare that we hear from readers whose copy has gone astray, but should that ever happen we offer a money-back/replacement issue guarantee on any unmailed issues if you notify us. And if you subscribed and decided that it wasn't for you for any reason, you can cancel any time, penalty free! What's more, we will refund you for any remaining unmailed issues.

Turning Japanese

As an avid fan of anime, I have been fascinated by the increasing prevalence of 3D within the industry. One of the leading anime studios, Production I.G, which helped produce the 1995 film *Ghost in the Shell*, no longer uses traditional cel animation, its last feature using this method being *Jin-Roh*. This is a shame, as cel animation has a quality that 3D animation cannot match; however, anime is returning to its origins with 3D features being made to deliberately evoke the look and feel of cel animation.

Cel animation has been used to create some of the best and most well-known anime, such as *Akira*. However, such methods require huge amounts of work, long hours and low pay, meaning 3D is now becoming the norm within the anime industry. Whether this is a positive or a negative is still debatable, but a debate that could provide some very interesting articles.

Homunculus, via the forum

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Manga-Vue, Ehsan Azzuz
<http://www.3dartistonline.com/user/EhsanA>

It's well worth looking at this both from a feature and tutorial perspective, so we'll look to cover the topic in a future issue.

New version available

Blender 2.49 has just been released. This is a fully loaded upgrade of Blender, including many game engine improvements (video textures, real-time dome rendering, a Bullet physics upgrade, an improved Python API and a handful of overall speed-ups), the long-awaited texture nodes, direct painting of textures on your 3D objects, improved Boolean operations, JPEG 2000 support and Etch-a-ton, a sketching technique for rigging.

Adam-red, via the forum

Thanks for the heads up on this. We'll be covering the new version in a forthcoming issue.



Image caption correction

In last month's feature on DAZ 3D titled Digital Art Zone, we mistakenly attributed Peter Hague's *Dragon Slayers* image to DAZ 3D itself. We'd like to apologise to Peter for this oversight and to point out that the image, which we are repeating here, is copyright of Peter Hague of e-brink (www.e-brink.co.uk).



Duncan Evans talks to Xiaoge Liu of Exquisitus 3D about celebrating China's cultural past in architectural visualisation images



Company Exquisitus 3D
Founded 2002

Company website
www.exquisitus.com

Country China

Software used 3ds Max VR

Expertise Specialising in the production of 3D scene construction and in particular, representation of China's ancient cultural scenes

Client list Kohn Pederson Fox, HOK, Emaar

Bringing the past into the future

“Our work shows that our advantage lies in the design of 3D scenes, in particular specialising in the production of scenes with Chinese characteristics”

Xiaoge Liu is a co-founder of Exquisitus 3D

It was over ten years ago when Xiaoge Liu started to learn 3D design after developing an interest in the subject.

Once he had a firm grasp of the concepts and available software, he and a number of his colleagues created a start-up company in 2002 under an umbrella group. After joining trade organisation Boni in 2005, Exquisitus was able to undertake commissions for international projects outside of China. Now the company produces high-quality architectural

renderings, including still images, animations and CG textures. The mission of the company is to provide cost-effective and reliable visualisation services for architects, developers and

builders over the world. Liu believes in adding value to his clients' projects by putting their concepts into images.

Exquisitus 3D has several CG artists with over ten years of experience in this field. It has created numerous excellent architectural CG works, while it also has artists specialising in textures and materials collection, processing and creation, which allows artists to produce excellent rendering quality.

3D Artist: *What is the specialism at Exquisitus that makes it different from other design studios?*

Xiaoge Liu: Our work shows that our advantage lies in the design of 3D scenes, in particular specialising in the production of scenes with Chinese characteristics. Not only can the audience see a model of delicate, lifelike materials with beautiful light, they can also see our feelings, our

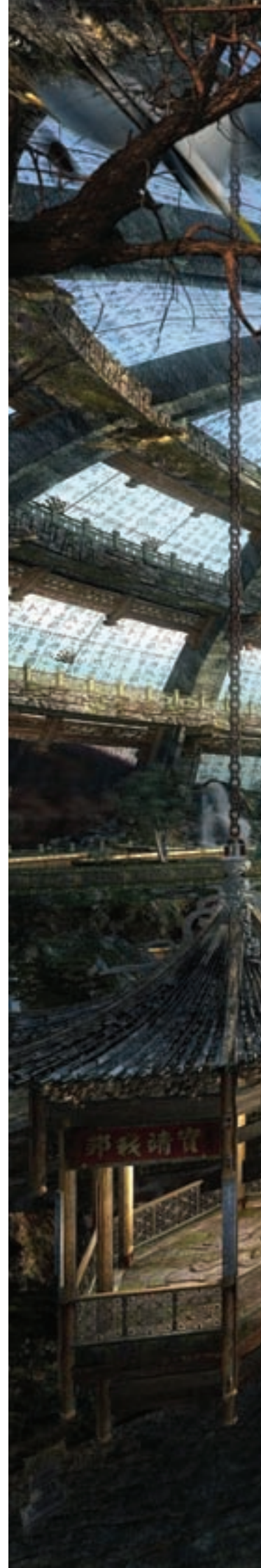


Oriental Dream

This project was to design a theme park. The clients for Oriental Dream needed a strong expression of two concepts: the traditional Eastern culture and a fantasy scenario. I collected a lot of material about these two concepts as well as researching how much detail would be needed. Because of my familiarity with the traditional Chinese architecture in the model, I did not encounter any challenges with the basic material render. However, it took several attempts in order to realise the 'dream' as the theme in the final rendering and later stages after post-processing in Photoshop.

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A



B



culture and our history. I think this is also to our advantage.

3DA: Who are or have been some of your major clients?

XL: Kohn Pederson Fox Associates, an international architectural practice, global architectural visualisation firm HOK and Dubai-based Emaar.

3DA: Your portfolio covers a range of styles from modern architecture to very traditional Chinese landscapes. Why is this? Is the Chinese artwork for specific projects or just to showcase what the studio can do?

XL: We have outstanding works of modern architecture as well as Chinese classical art. The production of modern architecture work can be applied to the ongoing construction of global design. The works of Chinese classical art are all used in domestic construction projects in China. At the same time, it also serves as a showcase of our technology for our international customers.

3DA: Can you explain something about the process that your studio goes through when working on a typical project?

XL: First of all, the information for the project is provided by the client. Models are built and after their completion the customers pay. We then discuss the choice of camera lens and overall style for the scene with the customer. Next, the model is rendered and goes through the postprocessing stage. The image is then delivered to the customer, who can then make any revisions necessary before progressing to the final product.

3DA: What software did you use to model and render most of your still and animated projects with?

XL: Our work focuses on construction rather than animation, and 3ds Max is the standard for that.

3DA: How many people typically work on a project in-house?

XL: My team consists of five individuals, but

A This image is meant to represent a traditional Chinese village scene and a traveller returning to their home after a long journey away

B The name of this image is A Beautiful Afternoon and is meant to represent a typical village building in the countryside

C There's a story hidden in this image witch has a little girl and a scooter that has been parked up. There's also the use of red throughout to look at

“The works of Chinese classical art are all used in domestic construction projects... serving as a showcase for our customers”

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“ [At Exquisitus 3D] we have outstanding works of modern architecture as well as Chinese classical art ”



they are all excellent and have completely independent projects from each other.

Under normal circumstances, we will put just one person on a project. Sometimes the project cycle is very short, and we will complete a few projects together when time is running out.

3DA: *There's a lot of construction in the Gulf at the moment, even with the global economic downturn. Are you working there or hoping to work there?*

XL: We have many projects in the Middle



Key Project



Tired of the war

This is my first creation with 3D, showing scenes of the 'one China' project. The owners needed to rebuild this entrance to a military fortress from some 500 years ago. The city has seen a lot of action; to survive five centuries,

the people of this city had to kill a lot of their enemies, but also a lot of their own were killed. Through this image, I am trying to convey that it is not a place of war but rather the profound memory of a war that's tired of the strong!



East; we are currently working in China. Of course, the occasional short-term project overseas or in the Gulf is welcomed, but in general I much prefer working in China.

3DA: *Where do most of your clients come from, and how do you market your company and attract overseas commissions?*

XL: Most clients come from China due to the construction industry here, but there is also some international work. The website is very useful in attracting interest.

3DA: *Do you think you will expand the company into other markets internationally?*

XL: In terms of setting up an office internationally and working within that culture, I don't think the company could be extended to other markets. I have no interest in pursuing such a course as I'm happy with how the company is working at the moment. For me, work, leisure and being in a good mood is more important than being overly successful.

3DA: *How important is the internet in promoting your company?*

XL: The internet is very important! It would be difficult to attract work without it. However, even if there was no internet, computers or electricity, I think I would still

be happy to create a Chinese brush painting of a beautiful image from my heart.

3DA: *China has a booming economy, but this is slowing down and work abroad is scarce. How have you found yourselves affected?*

XL: The current economic situation has meant that we have lost a lot of international projects. At the same time, China's domestic construction projects are increasing all the time so the workload is getting congested. We have an optimistic view of industry prospects in China's current economic situation.

3DA: *What are your plans and ambitions for the company in the coming years?*

XL: In the next few years, we are committed to creating 3D scenes showing 5,000 years of Chinese history and civilisation. My personal love of Chinese culture is my source of endless creativity.

D



E

“I'm happy with how the company is working at the moment. For me, work, leisure and being in a good mood is more important than being overly successful”

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D As strange as it may look, this was an image for the Oriental Dream theme park where traditional Chinese culture met modern attractions

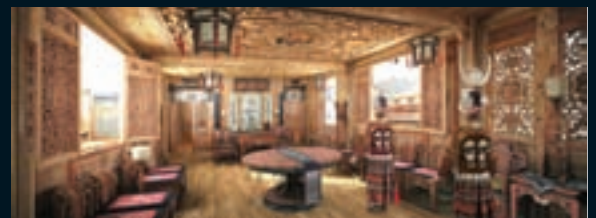
E Twilight town. Another in the series to showcase a traditional setting and our skills for pitching clients for future jobs



Key Project

A 600-year-old yacht

This was a project I designed for a travel company. It needed a luxurious wooden boat with the artistic style and characteristics of the Anhui province from southern China. The design is not that of today's province, but of 600 years ago. For this reason, I made a 15-day trip before I started working on the computer, covering more than 4,000 kilometres to the remote mountains of southern Anhui. I visited the 12 old villages and shot thousands of photos as reference material. After completing the visit, I also bought 20 books to study on the vessels of ancient China, and the windows, doors and interior design of ancient China.

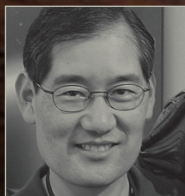


Key people



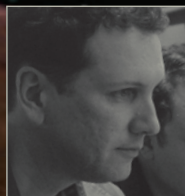
Max Gabl

Max Gabl was hired as a freelancer to work on the *TOS-R* project and now works full-time for CBS Digital. Samples of his work can be found at <http://www.maxgabl.com/Content/Home>.



Mike Okuda

Mike Okuda was one of three creative producers on the *TOS-R* project. View his work at <http://homepage.mac.com/michaelokuda/portfolio/PhotoAlbum45.html/>.



Niel Wray

Niel Wray supervised visual effects and 3D on the *TOS-R* project. In the past, he has worked as a digital and visual effects artist on several TV series, like *The X Files* and *Touched by an Angel*.

Meleah Maynard discovers how the artists behind the remastering of *Star Trek* gave the cult classic series a new look

STAR TREK remastered

J.J. Abrams may have brought the original *Star Trek* story back to the big screen with the new prequel released in May, but it was CBS Paramount that refocused fans' attention on the Enterprise crew when it remastered the popular Sixties TV series for broadcast and DVD release. The whole project got started when CBS Paramount decided to release the show in HD. Because the series had been shot on film, it was inherently HD friendly. The visual effects, though, were a problem. Considered leading-edge at the time (and still admired by artists and fans), they wouldn't hold up in high-definition format.

The challenge in giving the series an updated look, according to Mike Okuda, a graphic designer and one of three creative producers on the project (now known as *TOS-R* or *The Original Series Remastered*), was creating something that looked great but stayed true to the each episode's original look and vision. "*Star Trek* fans are enormously passionate about what they love, so when the project was announced there was a great deal of scepticism and fear that we would alter things and damage the show," Okuda explains. "I totally understood that. We had a mandate to freshen things up, but we didn't want to call attention to our work and pull people out of the experience so

they were thinking about how clever we were instead of about Kirk and Spock."

Fellow producers Dave Rossi and Okuda's wife Denise shared this commitment to honouring the original series, says Okuda, who is well known for his long history of work on *Star Trek*, including *The Next Generation* and all of the feature films prior to this latest release. So the three of them saw their roles as largely about trying to represent the views of the original directors, editors and producers. Each week they met at least once, sometimes twice, to screen an episode and create a detailed spreadsheet outlining which shots would be "slavishly" re-created and which ones could only be

Meleah Maynard is a US-based freelance writer. Contact her at her website www.slowdog.com

“I figured out fast that the planets had to be 3D”

Max Gabl, matte painter



given a slight tweak or variation. For example, Okuda points out, most of the show's 80 episodes begin with two or three familiar shots of something like a ship in orbit. This was sometimes redone from a different angle.

When deciding what to re-create, the producers looked for things that could never have been done in the past for budget reasons. Next, they discussed whether doing the shot would disrupt the flow of storytelling. If it did, they let it go. A good example of this is in the episode 'The City on the Edge of Forever'. In one scene, the crew beams down to a desolate planet and Captain Kirk makes a remark about ruins on the horizon. They were just about ready to get matte painter Max

Gabl on the job when Niel Wray, the project's visual and 3D effects supervisor, realised that because of the way the episode was cut, there would only be a few moments to drop the painting into the scene. "Some episodes have a comfortable amount of time around when the crew beams down, so we can do these great matte paintings for establishing shots," Okuda recalls. "But there was no way we could do it without changing the story with this one, so even though it would have been cool, we didn't do it."

Balancing the details and story

Even though it is an in-house operation, CBS Digital had to compete for the job of

» Triskelion planet (main image)

Wray is particularly fond of Gabl's matte painting of the planet Triskelion. The planet is lit by its two suns, as well as a blue star that illuminates an area on the top left



» **Hangar deck (top)**
Gabl's painting of the shuttle bay in the 'Let That be Your Last Battlefield' episode was based on a 3D model by Apollo Kim and needed to be highly recognisable because of its visibility in the show

» **Amok Time (above)**
Based on visual creative by Mike Okuda, this matte painting for the 'Amok Time' episode contains an elaborately textured 3D mountain in the foreground

remastering the series along with several other visual effects houses, says Wray, a two-time Emmy Award nominee who has worked as a digital and visual effects artist on several TV series. "We had to submit a demo reel and do a test to see what we would create for them, so we got the job because of our ability to do the work." From the moment they were awarded the project, the pressure was on to create an episode every week to be aired on late-night TV. For the first few episodes alone, Wray says, artists needed to come up with a new 3D version of the Starship Enterprise and a Romulan Bird of Prey vessel, a couple of planets and a matte painting of the mining facilities for the 'Devil in the Dark' episode. To add some life to the painting, Wray and others on the team were filmed and composited into the painting. "So it was really a mad scramble to get all of the assets created

and all the shots done with the various camera angles."

Wray estimates that between 25 to 30 people worked on the project at one time or another, including two 3D modellers, five or six texture artists and lighting specialists, five or six animators, one matte painter, half a dozen compositors and several freelancers. With so many people trying to co-ordinate things together, it took a while to get into a rhythm that worked for everyone and create some assets that could be used over and over again. There were also several technical obstacles to overcome. The first model of the Enterprise, for example, which was made and animated with Maya, along with all of the other ships, was a challenge for artists to design because the original 11-foot model was very plain by today's standards.

It was the team's first time making space vehicles, and what they eventually came up with looked great but turned out to be far too detailed to render in a reasonable amount of time. So between the first and the eighth episodes, 3D artists worked on stripping out unnecessary things and redoing textures to cut render times (using mental ray) from about two to two and a half hours per frame to 10-15 minutes per frame,

depending on what the ship was doing. Compositing was done in Shake and Inferno 3D.

The streamlined ship, unveiled in the 'Trouble With Tribbles' episode, included detailed views of interior spaces, including panelling and props. "We found reference photos and footage from the inside of the ship and manipulated some of it in Photoshop to look like actual rooms and corridors," Wray explains. Scenes that included glimpses of the crew moving about inside the ship were made using live-action footage of various members of the team, including Mike and Denise Okuda and Dave Rossi, dressed up in *Star Trek* uniforms and walking back and forth, talking on communicators and doing other tasks on a CBS sound stage. "There's one scene in 'Journey to Babel' where a shuttle craft is coming into the bay and Mike Okuda is the guy piloting the craft."

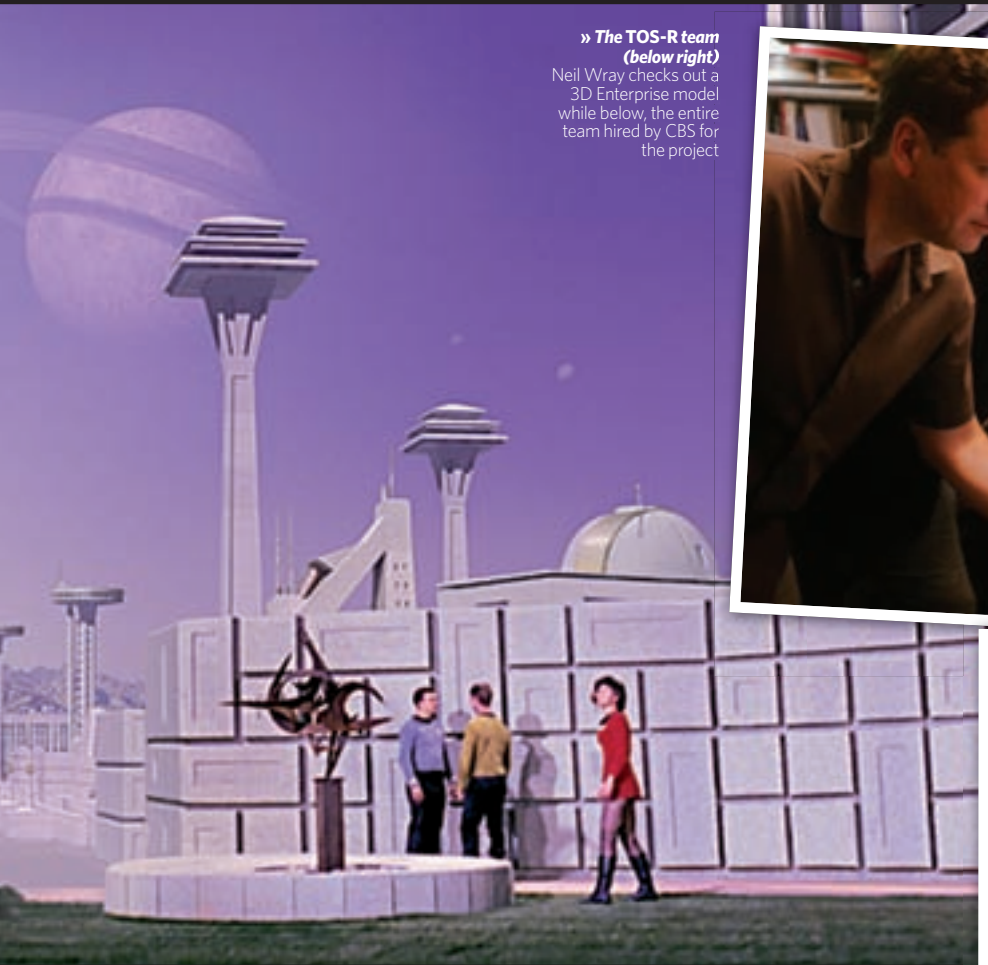
Another issue that came up over and over again was how to deal with the original show's abundant use of dissolves. With the Enterprise often dissolving with a live-action shot, the *TOS-R* team often had little choice but to cut some of the footage when they needed to update a shot. "We couldn't have the old Enterprise dissolving off along with our new CG Enterprise," Wray says. "So we would



» **The Menagerie**
This extended scene for 'The Menagerie' was crafted around the original footage of the ship's crew

“There’s one scene in ‘Journey to Babel’ where a shuttle craft is coming into the bay and Mike Okuda is the guy piloting the craft”

Niel Wray, visual effects/3D supervisor



» **The TOS-R team (below right)**
Neil Wray checks out a 3D Enterprise model while below, the entire team hired by CBS for the project



have to talk about whether the dissolve actually told a story in itself and, if so, how many frames we could cut without changing that story. It was hard to do because that's the kind of thing that really matters to fans."

With such an active fan base, the TOS-R creative team got a lot of feedback on their work throughout the project. One of the most hotly debated issues was the look of the ship's glittering nacelle caps. The first few versions of them just weren't quite right. "We had photos of the nacelle caps being assembled on the original model," says Wray, explaining that the eye-catching nacelles were actually made from a clear Plexiglas dome with ribs underneath that would spin as Christmas lights blinked on and off in front of a tinfoil backing. "We went through about 20 iterations to get them blinking the right way, but the photos really helped us replicate the past in CG."

This level of teamwork is emblematic of the common sense of purpose everyone seemed to share throughout the project, Wray says. Otherwise, they never would have been able to turn work around on such tight deadlines. One of the best examples of this sense of camaraderie, he continues, can be seen

in the remastered episode of 'The Doomsday Machine'. Where the average number of visual effects per episode ranged from 30 to 40 with some having as few as eight, 'The Doomsday Machine' included 105 because the original episode had that many effects and the effort had to be replicated. "The story just called for so much; it was an around-the-clock effort with everyone helping each other," he recalls.

In addition to the producers' spreadsheets, the team kept track of the shots needed for each episode using an internal web page with a QuickTime link to all of the original shots. Eventually, the team was able to assemble a library of shots to pull from, including more than 100 shots of the Enterprise. This allowed them to do things like reuse a shot of the ship in space while swapping out the planet in the background. Still, attention to detail was always a priority. Wray points to the star fields seen from the ship's bridge as an example. "At the beginning of the project, we established



» **Flint Castle**

Gabl's matte painting of Flint's Castle, ('Requiem for Methuselah') was made from scratch. "The real challenges were the rock and water textures lit by a pink atmosphere, which defies realism," Gabl says

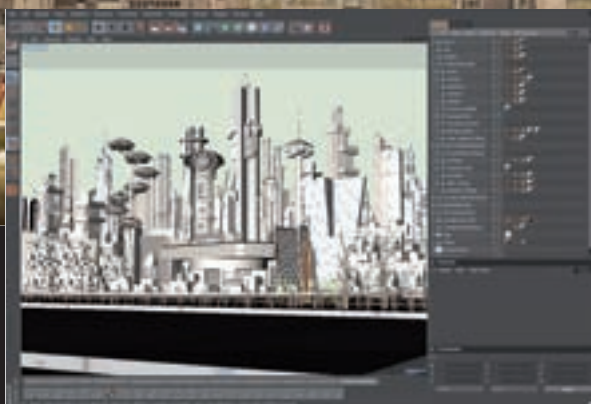
Technical difficulties

Trying to match today's visual effects with 40-year-old film was not easy for the TOS-R team. Because the original show was produced under a very tight budget and schedule, the condition of the show "was all over the map," says Mike Okuda. "In some cases we had original camera negative elements and in other cases we didn't, so from a visual effects point of view, we were always asking ourselves whether we should match the grain and degradation of the original print or if we should make it look as good as possible." With strong opinions on both sides, the team usually opted to meet in the middle.





Images courtesy of DAZ 3D



“It was a painter’s dream come true. It was great because I was given the opportunity to create completely new shots for this iconic show”

Max Gabl, matte painter

how the stars would need to look when the ship was travelling at various warp speeds,” he explains. “That way, they would always be consistent with whatever warp speed he asked for.”

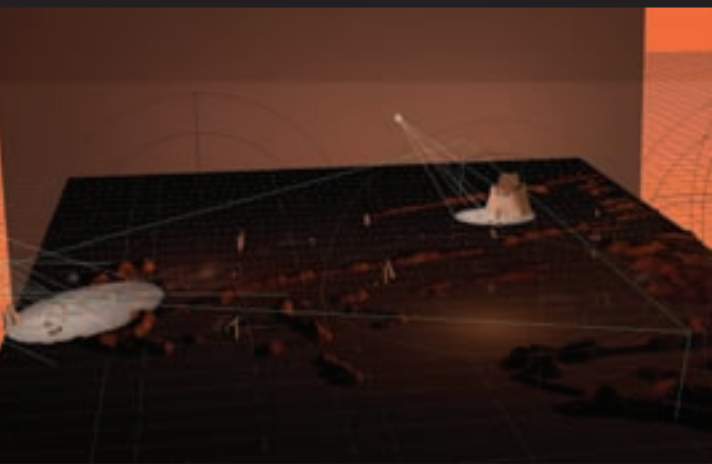
A painter’s dream

While there were plenty of details to re-create or fine-tune, there were also many opportunities for making something from scratch. While he did work occasionally with models made by other artists in Maya, matte painter Max Gabl was one of the artists who enjoyed a lot of creative freedom when working on establishing shots and planets for 54 episodes of the show. Using CINEMA 4D and Photoshop as his main tools, Gabl created 33 establishing shots and scene extensions, 49 planets and a handful of nebulas.

Most of his digital paintings started with a 3D model that he or Wray made before applying some simple textures and lighting in CINEMA 4D, while more elaborate details were added later in Photoshop or Corel Painter. “Since the turnaround was extremely fast, I didn’t have much time to spend on texturing and

rendering,” Gabl explains. “And the fixed-angle cameras in the matte painting shots lent themselves well to this workflow anyway, because I could paint the detail in one pass at the end while also adding atmosphere.” He describes the experience as “a painter’s dream” come true. “It was great because I was given the opportunity to create completely new shots for this iconic show,” he says, adding that his project files averaged around 350 megabytes.

One of the biggest challenges Gabl faced was creating realistic imagery for the show that still matched the look of the original footage. A good example of this, he says, is seen in ‘The Man Trap’ episode. Because the footage had clearly been shot on a sound stage, the team decided that Gabl’s matte painting would need to look like a stage, complete with appropriate lighting, while still offering viewers a somewhat realistic look at the planet’s rugged terrain. “This was so important,” says Gabl, “otherwise the viewer would have felt kicked out of the story once they were distracted by a change in the atmosphere.”



» Wink of an Eye (top)

With so many buildings in this shot for the ‘Wink of an Eye’ episode, Wray and Ryan Reeb helped with 3D models to populate the city

» The Man Trap (above)

This cityscape featured in the ‘Wink of an Eye’ episode included 1,350,000 polygons. Gabl collaborated with several other artists on this matte painting, the largest 3D file in the project

» Solitude
Imagx



» **Doomsday (main)**

The burned-out USS Constellation in 'Doomsday' was created by breaking open the Enterprise model in Maya and modelling a new starship

» **The Corbomite Maneuver (right)**

Artists based the new CG version on the original ship, which was made using a gold Christmas bulb

» **For Whom Gods Destroy (below right)**

Textures for this planet, used in the episode 'For Whom Gods Destroy', were created in Photoshop and mapped onto a 3D sphere

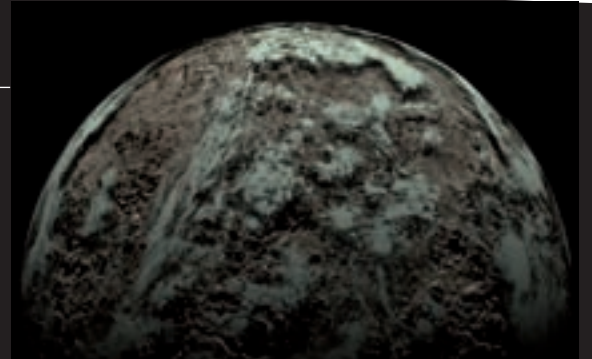


Before they were put into shots, buildings were modelled in CINEMA 4D, textured, rendered and then painted over in Photoshop and Corel Painter. Older matte paintings, which had been originally painted on glass, were imported into Photoshop and/or Painter where Gabl used a graphics tablet to give them more detail or extend them to fit HD format. Because the planets were usually based on existing planet shots (although they were often quite blurry), Gabl's paintings needed to include the same details in order to match the footage. "I figured out fast that the planets had to be 3D," he continues. "Because of their perfect roundness, spheres with detailed surface texture would have taken too long to paint by hand."

Gabl used a NASA template to start the base texture used on all planets. Then he manipulated the textures until he had something he could work with. Next, he used a graphics tablet and pen to refine the texture until it was ready to be projected onto the 3D spheres he'd made in CINEMA 4D. BodyPaint 3D's projection tools were used to paint out seams and touch up textures. Not long into the project, Gabl started downloading geological elevation data and converted it

into a greyscale image that he used as a Displacement map to create dimensionality on each planet's surface, including mountains and other types of terrain. "The cloud layers were basically just another colour layer projected onto a second, slightly larger sphere, with an Alpha channel applied for transparency," Gabl explains. He painted the clouds for the Alpha channel in Photoshop, white on black, while finished planets rendered at about 4,000 x 4,000 pixels.

Like the Maya artists working on models of the Enterprise and other ships, Gabl built an extensive library of textures that he could modify as needed, allowing him to turn a blue ocean green or vegetation from green to brown. Large structures and buildings seen from space also needed to look realistic. "I had to think about how tall a building would have to be to be visible from space. A hundred miles tall, maybe?" Gabl recalls. On average, it took about two days to create each planet, but towards the end of the project, as deadlines loomed, he was able to crank out one a day, two on a few occasions. "After we all got to know each other well, I knew exactly what they wanted and they knew how I worked, so we could go much faster."



» **Vulcan planet (below)**

Vulcan was the first planet Gabl made for the TOS-R project. Detailed instructions on the look were provided by Okuda



A

“With the advancements in transferring files between apps, geocaching, etc, getting apps talking to each other isn't anywhere near as difficult as it once was”

Duncan Evans talks to Dane Maddams and Chris Vandenheuvel of Plastic Wax about videogame cinematics and working in TV and print media

A seal of quality



Company Plastic Wax

Founded 1999

Company website

www.plasticwax.com

Country USA

Software used 3ds Max, Maya, Softimage, Vue

Expertise The creation of premium digital entertainment, 3D art and animation for the film, VFX and videogames industries

Client list Take-Two, Atari, THQ, Games Workshop, Hasbro



Dane Maddams lead producer **Chris Vandenheuvel** senior producer

“The aim was to create a leading digital design, 3D art, animation and production studio specialising in the creation of premium digital entertainment, 3D art and animation for the film, VFX and games industries”

Sydney, Australia isn't usually the first place you think of in terms of industry-leading cinematics for games and TV promotion, but that's exactly where **Nathan Maddams, creative director, and Roger Maddams, CEO, set up shop ten years ago.** The aim was to create a leading digital design, 3D art, animation and production studio that specialises in the creation of premium digital entertainment, 3D art and animation for the film, VFX and videogames industries. A decade later and with clients such as Atari, THQ, Hasbro, etc, Plastic Wax offers a complete service, including scripting and storyboarding, character and set design, audio and sound effects for film, television and videogames, high- and low-poly modelling, motion capture, hand-key animation and visual effects, be it the latest videogame, feature film, television series or 30-second TV commercial. The company currently employs a core team of 30 people, all senior in their field generally, with several years of experience minimum.

3D Artist: *From a nonproprietary tools perspective, what general software do you use and why use it compared to the alternatives out there?*

Dane Maddams: Generally speaking, other studios use specific packages to accommodate their pipeline. Fortunately, our team members are trained in their field fluently between both packages, which means we are not bound to using either Max or Maya. Each project we are presented with is entirely unique, and as a result we use the best tool for the job or the tool the client requires the job to be completed in. With all the advancements in transferring files between apps, FBX, point/geocaching, etc, getting apps talking to each other isn't anywhere near as difficult as it once was.

But very broadly speaking, we use Max to light and render, a combination of Max and ZBrush to model, while a lot of animation work flows around Maya as we do a considerable amount of motion capture, which allows us to play with additional packages such as Motion Builder, also an important addition to our animation pipeline. But again, we've used apps such as Softimage, Vue, etc. It's all about the best tool that will allow for seamless operation for the job's pipeline.

3DA: *Let's talk about some of the game cinematics that you've worked on. You did Tomb Raider: Anniversary – how much fun*



A B Two stills completed for print for the anniversary edition of *BioShock* (cover art). © Detail: *BioShock* © 2009 2K Games, Take-Two Interactive Software, Inc. All rights reserved

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“We obtain solid reference material at the start of the project, ascertain the feedback intervals then lay out the schedule in a clear and concise manner”



● Stills from the recently completed *Ghostbusters: The Video Game* TVCs © Detail: *Ghostbusters: The Video Game* TM & © 2009 Columbia Pictures Industries, Inc. Game software excluding Columbia Pictures Elements © 2009 Atari Interactive, Inc. All rights reserved

✚ ● was that to work with everyone's favourite top-heavy adventurer? Were you given models to work with and then animate, or did you create Lara from scratch?

DM: Both *Legend* and *Anniversary* were great to work on. From the intellectual property (IP) itself, creatures and rich worlds, to the acrobatic combat, it all made for a great project to work on. This also allowed us to develop a blend of dynamic motion capture and hyperreal hand-key animation to capture Lara's attitude and moves realistically but also in a way that's larger than life. And, of course, there's something satisfying about seeing that Lara-esque silhouette, treading that line between provocative and intelligent, unloading a full clip as she back-flips over a velociraptor, all in a day's work.

The original Lara model was provided to us as an in-game version, which was then

re-treated, textured and finessed, until we had a high-detail version that could undergo close scrutiny, while still remaining true to the client's vision and integrity of the brand.

3DA: For *BioShock*, it had a very distinct Art Deco look to it but under the sea. Did you draw on any references for the cinematics for that or was it all tightly commissioned?

DM: With such a rich storyline and specific style to tap into, we were armed with a plethora of references relating to the game, which helped greatly. As always, we have a firm grasp on creative direction, but under constant guidance of the client to maintain IP and overall continuity.

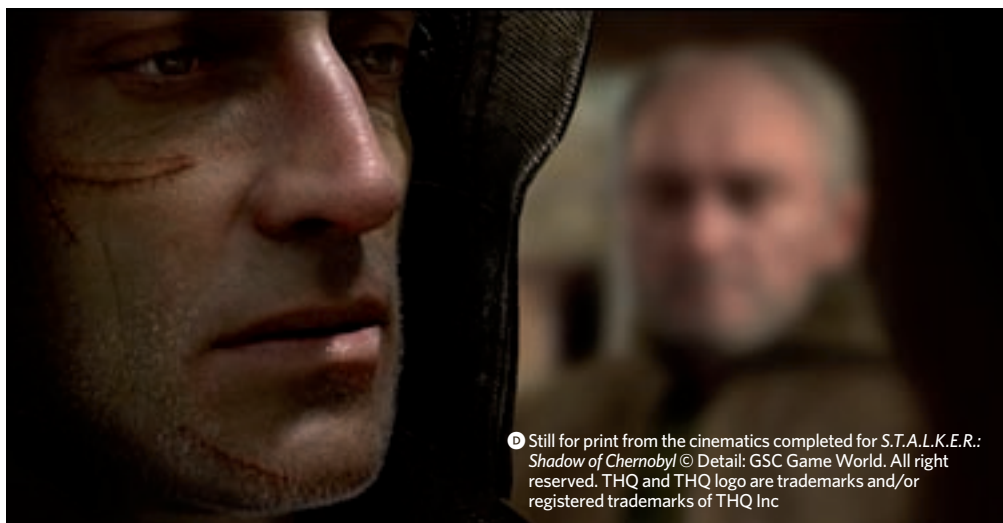
3DA: In *Mafia II*, it looks like there's a more realistic look to the character modelling. Did that pose any challenges?

DM: There was a very specific focus on character realism, so we placed our attention on highly detailed texturing and character skin shaders. This process is very iterative and did pose some interesting technical hurdles that we had to overcome, but has allowed us to exponentially further develop our realistic human character shaders and technology.

3DA: For these games and others, do you create models for the games as well? How does that work in practice with you liaising with the developers?

DM: Yes, we do create assets for games as well. At the beginning of all projects, we are provided a detailed brief that has all the reference material and technical details we need to create the assets.

Working with top-level intellectual property does come with its challenges, but having an amazing team never hurts to ensure you end up with a top-end, accurate product. A lot of the time you're working closely with the game developer on a day-to-day basis, but you also have to work with the game publisher and the IP owner as well. It's important that we obtain solid reference material at the start of the project, ascertain the feedback intervals (going up and back down the chain) then laying out



● Still for print from the cinematics completed for *S.T.A.L.K.E.R.: Shadow of Chernobyl* © Detail: GSC Game World. All right reserved. THQ and THQ logo are trademarks and/or registered trademarks of THQ Inc



● We chose to use a combination of hand-key and motion capture to bring these characters to life using our in-house motion capture facility



Key Project

Warhammer 40,000: Dawn of War II

Client Games Workshop

Teaser release E3 '09

Working on a Games Workshop title was a brilliant opportunity and almost everyone in the office was a fan of *Warhammer: Dawn of War* (and those that weren't soon became fans!). We really wanted to take the brand to the next level and keep up the dynamic action and intensity of the previous trailers.

We were involved right from the beginning, where our creative director contributed heavily. Working closely with Relic and Games Workshop, we started with their script and guided the team from storyboards and sequence development through to the final render.

We really wanted to bring Workshop's and Relic's vision to life, creating a more visceral world than the last.

We chose to use a combination of hand-key and motion capture to bring these characters to life using our in-house motion capture facility. Using various actors for specific actions, we used gymnasts for the banshees, martial artists and stunt performers for the space marine actions, which generally included falls, impacts and walks, along with another actor solely for facial performance.

We paid a lot of attention to detail with the animation, planning what characters were to be mocapped and which to be keyframed, all the time making sure both styles sit side by side.

Relic provided in-game assets for reference material. The models that were used for the animation provided a good base but the resolution had to be increased for the feature.

Relic supplied us with in-game assets, however, we only used them as reference. We had our concept artists create character sheets, which we used as the main reference. From there, we created the characters from scratch.

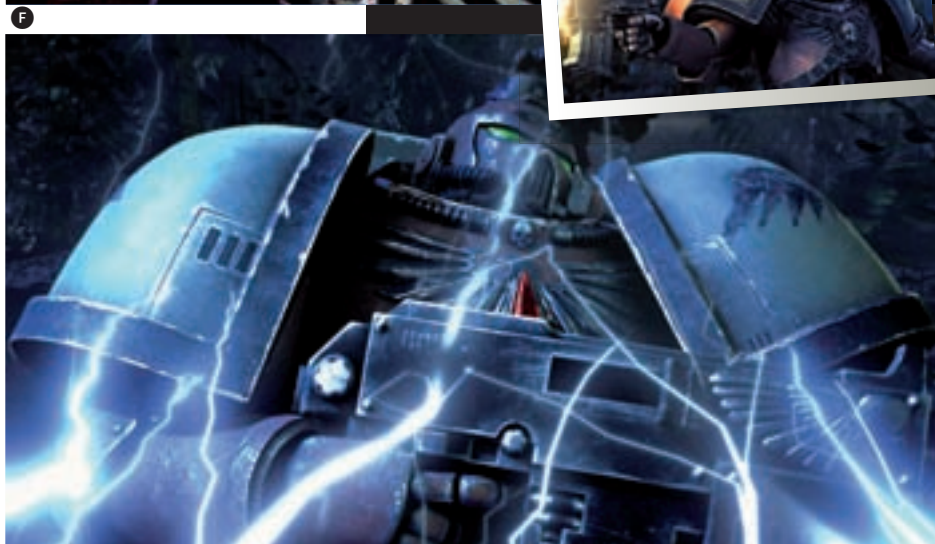
E the schedule accordingly in a clear and concise manner. Almost every project we've worked on, we're trying to fit in a lot into a small deadline; as long as we let the client know ahead of time that we need all feedback in a certain time frame, they all do their best to make sure we get it in time.

You also have to remember that the client is trusting you with something extremely close to their heart; in most cases, it's something both they and their team have been working hard on for years. As such, it's our responsibility to ensure we take care of it, treat it right and bring it to life.

3DA: Besides cinematics for adverts, what other kind of work has Plastic Wax done in the TV field?

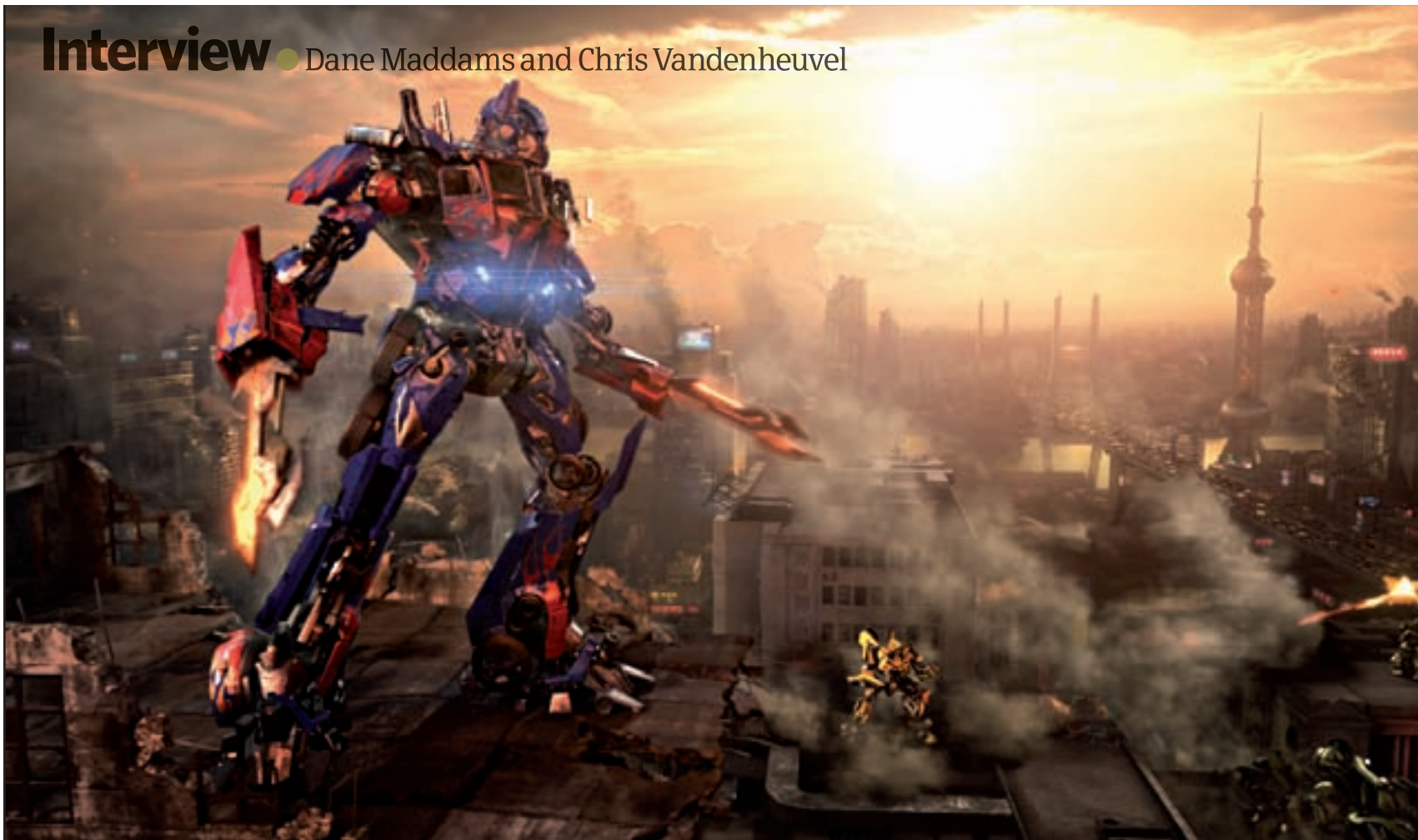
DM: Lots! We've been involved with TVC for some time and created adverts for the likes of *NBA 2K9*, *Juiced* and *The Darkness*, as well as opening sequences and motion graphics.

Hot off the press is that we just finished two 30-second TV commercials for the new *Ghostbusters: The Video Game*, just released in June. One advert was for next-gen and the other was for the Wii, where we

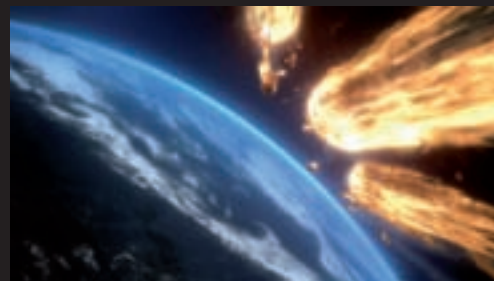


E One actor was used for all the facial animations in *Dawn of War 2*

F *Dawn of War 2* cinematic released at E3 2008
© Detail: *Warhammer 40,000: Dawn of War 2*
© Games Workshop Limited 2008



G



Key Project

Opening trailer, *Transformers: Rise of the Fallen*

Format PS3/Xbox 360

Transformers was a fantastic job to work on! Everyone in the office was a hardcore fan; as we had all grown up watching cartoons and playing with the action figures, it was a dream come true.

Again, we were involved right from the beginning. Working closely with Activision and Luxoflux, we obtained their ideas and vision from the script and briefs, creating storyboards and bringing their concept to life. We provided them with numerous animated storyboards until we all were in agreement with cameras, timing and overall composition. One of the core components for this piece was the frenetic feel of the camera, throwing you in the heart of an intense battle.

All up there were a total of 11 Transformers in the cinematic, nine of which were generously supplied to us by Industrial Light & Magic. The ILM models were extremely high in geometry detail. We reduced geometry that was not visible in scene and reworked the textures to show appropriate scene-specific damage and wear.

A major consideration for the animation was the camera in the battle scenes. We considered the cameras to be an extra character caught between all of the chaos, making sure the camera had that handheld feel to really make the viewer feel like they have been thrown in among the action.

In compositing some of the shots, they had over 70 passes. When a great deal of those are 32-bit floating point, you can imagine it made for some quite heavy and complicated comps.





H

“Having the mocap studio allows us to capture performances and get them in the scenes much quicker than traditional methods”

+ have a live-action kid playing against Slimer. It was a real pleasure working closely with the comical Slimer; we found ourselves humming the *Ghostbusters* theme music throughout the day!

3DA: Any plans to move into the bigger-budget film world or have you had experience there already?

DM: We've done quite a bit of work in films in the past creating assets, and we're actually working on a full-length feature film right now. We're always in constant talks with other studios as well as top-level and IP owners about getting their brands up on the big screen.

3DA: What kind of marketing work do you do? Is it all tied in to game projects?

DM: Primarily, we're best known for our work in games but we've also worked on material for media agencies, opening sequences, kids shows as well as a lot of motion graphics for TVCs. We have a marketing facility stationed in San Francisco, as well as our Sydney office.

3DA: We understand you have your own mocap studio. How advanced is that and what use have you put it to so far?

DM: Our mocap studio is a setup of 20 Vicon MX40 cameras. Having the mocap studio

allows us to capture performances and get them in the scenes much quicker than traditional methods. We have used it to create our proprietary facial capture/performance system and constantly refine our capture methods.

As with everything, the art of successful capture is through proper planning, rehearsal and understanding of what's to be captured. Each session has the cameras arranged in the best layout to ensure that the performance capture's quality is maintained to the highest level.

3DA: Has the current global financial meltdown affected one aspect of the business more than others? TV and film VFX compared to game cinematics, for example?

DM: The global financial meltdown is bound to affect both industries. Overall, there's not as much cash out there at the moment, and there's fewer investors out there willing to risk their cash on any investments, let alone on videogames and movies.

Which one will be affected most? It's hard to say. If the past is anything to go by, the games and film industries might not be affected at all. Watching the trends, there's always been a spike of game sales and movie tickets during economic downturns.

3DA: What projects are you currently working on that you can discuss?

DM: Well, we just finished three major pieces: the opening cinematic for the next-gen game *Transformers: Rise of the Fallen*, *Warhammer 40,000: Space Marine* for E3 09 and two TV commercials for the *Ghostbusters* videogame. We're now working on a feature film (sorry, it's all hush-hush!), character development for a branding project and our own internal research and development where we are developing a body-muscle system for real-time systems. But the videogames industry moves so fast that this could change by this time tomorrow!

3DA: So, looking to the future, what kind of project would you love to get involved with?

DM: We'd love to do a full-length feature film for one of the brands we've previously worked with. Which one? Well, all we can say is stay tuned!

3DA: And finally, who's going to win the Ashes this summer?

DM: Fellas, that's easy! Aussie Aussie Aussie! Oi oi oi!



© Opening cinematic released 23 June 09 © Detail: *Transformers* and all related characters are trademarks of Hasbro and are used with permission © 2009 Hasbro, Inc. All rights reserved

© Space Marine cinematic released at E3 2009 © Detail: *Warhammer 40,000: Space Marine* © Games Workshop Limited 2009

Plastic Wax and 3D Artist would like to thank the following companies for the use of the material:





Step by step

Easy-to-follow guides take you from concept to the final render

Artist info



Ryan W. Knope

3DArtistonline
Username: RVWknope

Personal portfolio site
www.ryanknope.com

Country United States

Software used 3ds Max 2009,
Photoshop CS4, mental ray

Expertise Architectural
visualisation, interiors,
modelling, lighting, texturing
and materials

Software used in this piece

3ds Max

mental ray

Photoshop

Modelling,
texturing,
rendering

Make a detailed environment

Ryan W. Knope is a freelance 3D artist formerly of RNL Design and Rockland Studios

As Humans Control

“This image was created for a contest entitled The Control of Nature at It's Art. The goal was to create an extremely detailed rendering that you could look at for quite a while”

Concept

The concept came to me weeks after the contest started when I was sitting in front of the paludarium in my dining room. I decided there and then to enter the contest on the It's Art website, and since I was creating the scene for fun, most of the development was loose and unstructured.

This rendering was created for the Control of Nature contest at www.itsartmag.com. This detailed scene was made with acute attention to detail over a month and a half on a full-time basis. I built each and every model in the scene. I wanted to create something that people could look at for hours, noticing all kinds of different creatures, plants and objects, such as the carnivorous plant enticing a fly in for dinner. My muse, so to speak, is a live paludarium I created for my home.

I started the image with a basic idea, which evolved organically as I continued. There were a plethora of issues that I encountered in the process that I have noted below, along with general concepts for modelling and texturing. The use of Photoshop and the purchase of additional RAM became necessary to complete the entry. Four scenes make up the final rendering due to high poly counts and exhaustive displacement.

01 Boxing out the environment

The way I usually start a rendering is to box out the general environment and set up the walls, floor, ceiling and camera. I place a plane for the floor and create renderable splines for the walls. For this rendering, the splines were set to four

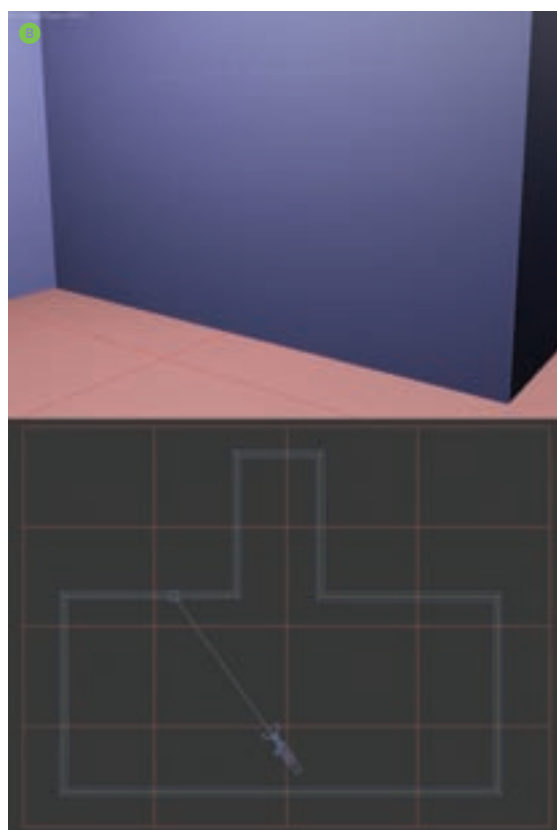


“I wanted to create something that people could look at for hours, noticing all kinds of different creatures and plants”

sides at a 45-degree angle with a thickness of about eight inches. I then added an Edit Poly modifier and brought the walls up to about ten inches in height. I traced the wall profiles with a line and created a closed curve. I added the Edit Poly modifier then extruded and capped the ceiling. This provided the general environment for the room and hallway.

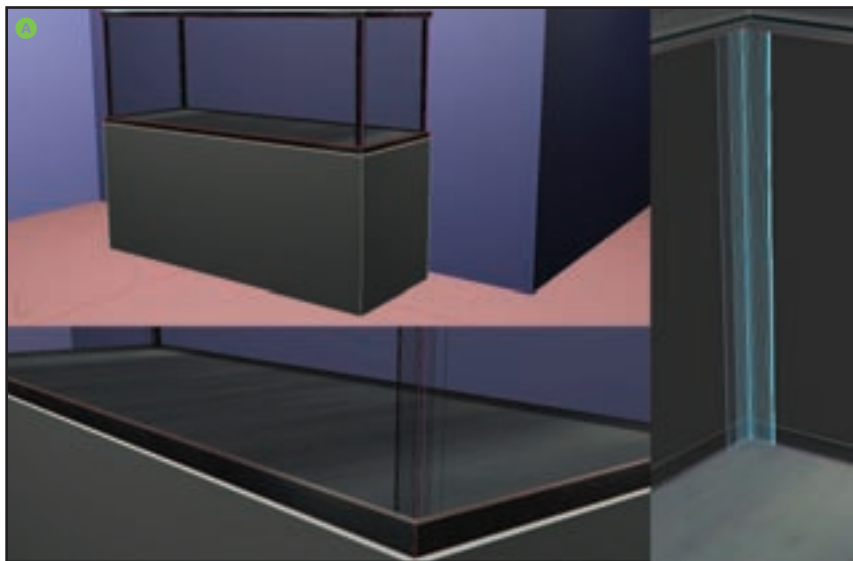
A The start of the environment. The walls, floor and ceiling in place

B Tank and light fixture modelling and details



02 Tank and light fixture creation

For the tank, I created the four sides of the glass with boxes, making sure that the ends touched. I applied the Arch & Design material with Transparency at 1 and rounded the corners at 0.25 inches under Special Effects. The glue holding the glass together was created with a spline,



extruded to go from top to bottom, and was then placed in each corner touching the glass. The frame of the tank was modelled with renderable splines, Edit Poly in the stack. Material was applied with an image map of black plastic from an aquarium. Shine was added, with rounded edges of 0.125 inches. The light fixture was created from splines, then extruded and capped. I used the same object to create the ends of the fixture. Material was then applied with the texture of the fixture and slightly rounded edges. A box was used as a placeholder for the stand, too.

03 General lighting setup

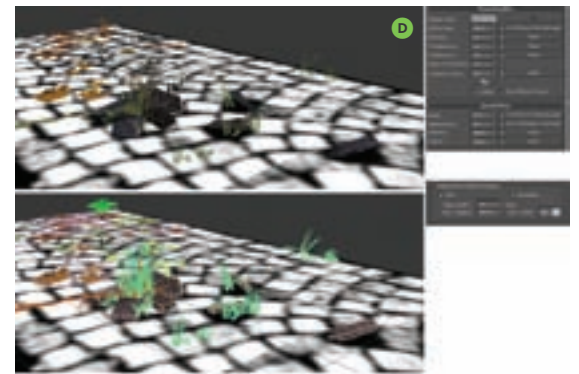
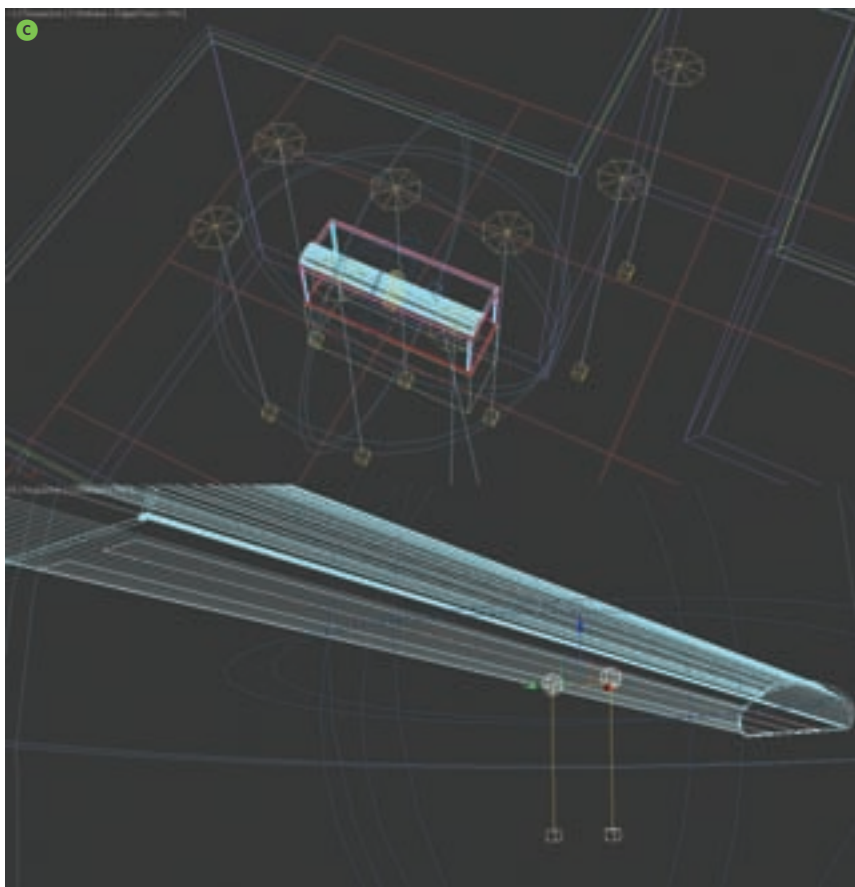
At this stage, I contemplated using a more complex lighting rig, although I was worried about my computer's ability to handle everything. I used eight Standard Spot lights, set Decay as Inverse Square and started at six inches. Hotspot was then set to 5.6 and Falloff at 169 with Circle checked. These were the main light sources. For the tank fixture, I used two Target Rectangle Photometric lights, matching the



C The placement of Standard Spot lights and Target Rectangle Photometric lights

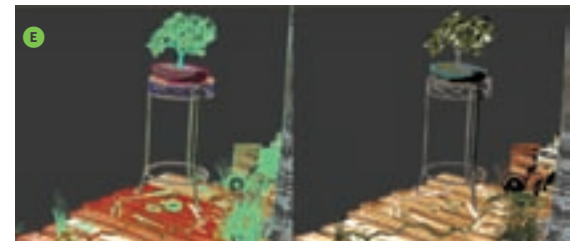
Modelling the tank

There were many quirks that I worked out while creating the tank and its enclosures. I originally wanted to create everything in 3D but quickly realised that my processor and RAM would have a hard time with it. The modelling itself was quite easy. The materials, displacement and visualisation of details brought about various issues. Displacement settings on the rocks and gravel, as well as the maps themselves, had to be adjusted several times. Plant placement was the hardest task. It took hours because I couldn't see how far the rocks were displacing until I rendered the scene. The process proved to be a test rendering battle, which was another reason I decided to put many plants in during postproduction. Patience was definitely a virtue. In the end, the saving grace was the separation of these pieces from the main environment and four extra gigs of RAM.



D Displacement map settings for the ground stone and Global Displacement render settings

E A detailed look at the wood decking area



“Sections were blacked out to make room for pushed-up stones”

size and location of the actual bulbs. The light shape was then set to be visible in rendering, while Attenuation was set to about six inches so that it would exit the tank and light up the room a bit.

04 Area in front

I started off by placing a plane. I put my colour map in the slot, created a Bump map with more contrast and applied UVW mapping. The same image was used for my Displacement mapping by desaturating, upping the contrast and painting in higher and lower areas with white and black. Sections were then blacked out to make room for pushed-up stones.

I then created chamfer boxes and applied an Edit Poly modifier for the pushed-up stones, making each a bit different. Box UVW mapping was used with the same material cropped differently for each stone. Grass objects

were then placed between the cracks. Glass was created from boxes, using the same glass material from the tank. Leaves were made using planes and a Bend modifier with a Color, Bump and Opacity map. The small, sparsely leafed plant was created using branches from the bonsai. The roots involved the use of splines with an Edit Poly modifier and Soft Selection editing. Materials were made up of Color Diffuse, Bump and Displacement maps.

05 Wood decking area

The boards were made with chamfer boxes that were bent and cut for the according breaking. The tree trunk was a cylinder with Edit Poly and Displacement mapping. The pots were lathed and cylindrically mapped with Bump, Shine and Color Diffuse. The tools were made using various techniques and placed at random. The grass was made by creating a hair object, converting it to poly and then editing it to the desired

The studio ● Make a detailed environment



look. Using Scatter on the leaves of the bonsai was appropriate, however, the bonsai trunk took more time. I modelled each piece until I had the right structure. The last thing I added were the nails, placing and fitting them over the boards.

06 Brick wall detailing

At this stage, the main wall had no displacement; instead, it just had high-resolution Diffuse and Bump maps. This combination of model and material was used in all four of the scenes. In my detailed wall scene here, a slanted wall model was added for the displaced brick. It was slanted in order to make the brick protrude that much more towards the bottom where the ivy couldn't quite reach. The upper and lower wall trim was then placed in all of the scenes, and included Color Diffuse and Bump maps.



“A slanted wall model was added to make the brick protrude more towards the bottom where the ivy couldn't quite reach”

F The contents of the wall scene, showing the slanted displaced brick placement



G These are the wireframe details of the window. It saves time by reusing geometry

07 Creating the window

The hole was made by using a slice plane, extruding the cut and deleting both sides. Mullions were created using the decking objects. I kept the same material because I planned to add an old wooden overlay in postproduction. The cross boards were made by using broken decking objects. Wood chips and shards were made by using the broken decking ends. The broken glass was made by drawing a spline, and then extruding and capping it. Arch & Design material was used for the glass with slightly rounded edges applied. The backdrop is simply an image map and a plane.



08 Detailing the stand

The main object for the stand was a chamfer box, cut and intruded to create the cavity. The top and base of the cabinet is a set of chamfer boxes, alternating between dark wood and bronze. The doors started as chamfer boxes with Edit Poly that were then cut, deformed and intruded to make room for the bronze plates. The plates were enhanced by applying a

Artist Showcase

Ryan W. Knope

Ryan W. Knope is a freelance 3D artist working in the United States. His interests include music, nature and his soon-to-be wife.

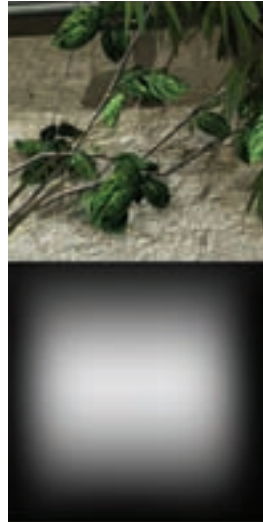
City At Night 3ds Max, mental ray, Photoshop (2009)

This is a concept of a night-time city. Darker shots intrigue me





H Chamfer boxes, Edit poly, splines and Displacement. Elegance is introduced with bronze and black wood



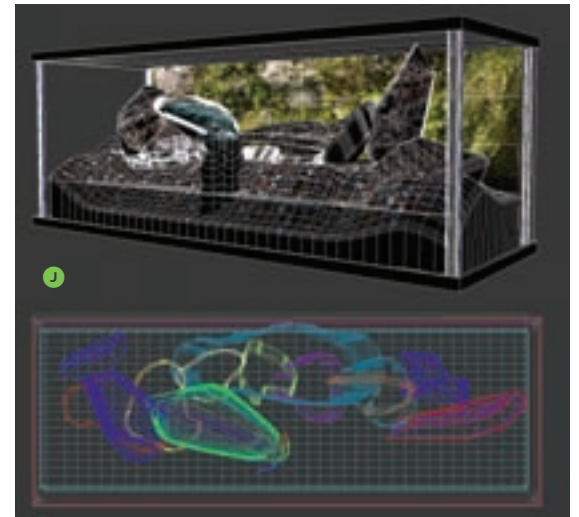
I Ivy close-up, Bending Displacement map, material and Displacement render values

Ivy Magical



Render Displacement Values

J The waterfall was created using several planes with segments that overlapped each other



placed in such locations that were visually pleasing and aided the composition.

10 Pebbles, rocks and water

The lower water was made using a box. Some of the rocks were created using segmented chamfer boxes with Edit Poly, while others were extruded splines that I chamfered. I had greater success using chamfer boxes as opposed to using boxes when prepping for displacement because the edges don't seem to come apart as easily. The waterfall was created using planes with several segments and Edit Poly. While creating the waterfall, I kept in mind that it didn't matter if the water came out over the sides of the stone because it would be displaced. The back wall is an image-mapped plane.

11 Displacement inside the tank

You probably noticed that the rocks were grey in the last step image. This grey stone was only the base for what I did next. I wanted a blending of two types of moss and lichen cascading over much of the rock. Instead of using an MSO material, I decided to create two more copies of each rock that I wanted to change to moss. I moved them slightly, created two new materials with entirely different displacement then used Diffuse Color and Bump maps, one

bronze material with Displacement and Bump to a chamfer box. The trim and handles were created with renderable splines, and the hinges came about using chamfer cylinders.

09 Ivy, leaves and exterior plants

GuruWare's Ivy Generator was used for the ivy in the scene. The creation was comparatively straightforward and allowed several sets of leaf changes and sizes to be created. The challenge was in bending the flat leaves to make them look more natural. In order to solve the problem, I decided to use a four-sided Gradient Displacement map with a low subdivision amount to make each bend. The trunks of the spiky dracaenas were created, each with a renderable spline and Edit Poly. A Displacement map was then applied. The leaves were created using deformed cylinders in order to lend a slightly rounded appearance, with Bump and Color maps then being applied before bending. Finally, grass was



City By The Water 3ds Max, mental ray, Photoshop (2008) I fell in love with master planning and city shots while at RNL Design



Global Warming 3ds Max, V-Ray, Photoshop (2007) Inspired by each power plant's negative effects on nature and visual beauty

The studio ● Make a detailed environment

Lighting and rendering

I didn't encounter many problems when developing the lighting scheme; the only adjustment I had to make was getting the right light intensity to fit the desired mood of the scene.

Rendering was the biggest hassle throughout the creation of the scene. I decided early on to use two scenes: one for the environment and a second for the tank. This worked until I decided to detail the walls and add more displacement. In the third scene, only the brick walls were displaced. Planning was then in overdrive, as objects in each scene had to be shared, keeping with the setup so that the lighting of all the objects matched.

I also had issues adjusting the displacement per object. Render settings operate on a global scale and I had to bend the leaves of the ivy. Since this would be hard to do manually with so many leaves, I needed to find an alternative. The solution finally came to me when I created a four-sided gradient and applied it to the displacement slot. Subdivisions were turned to a very low value and my machine was able to process the render. The bending process worked well and took only ten per cent of the amount of time.



for each type of moss. This created more detailed, realistic moss. You can also see how much displacement changed the shape of the rocks.

12 Modelling the plants inside the tank

Mushrooms were made by lathing the caps' profile spline and deforming the stems with Edit Poly. Ferns were made by applying a Bend modifier to planes and then adding the fern's opacity and Color Diffuse. Others were made using the same technique as the ferns, although copied, scaled and bent. Some were simply an image mapped onto a plane with opacity and rotated to match the view. Air plants were made using bent and deformed cylinders. This is the same method as for the dracaena leaves.

13 Adjusting the lighting

I kept getting comments to make the tank brighter and the lighting of the room darker in order to showcase the tank more. I complied by lowering the intensity of the Spot lights, working further on it in postproduction. I adjusted the Levels and added a layer with an airbrushed dark edge around the

bounds of the scene, keeping it light enough to see the details but giving it a darker feel. I also painted more defining detailed shadows inside the tank and behind the bonsai. This helped give more depth. Lighting postproduction work was done simultaneously with all other work at this stage.

14 Postproduction outside the tank

As I approached the end of the project, I realised that I needed to dirty the environment somewhat. This was easier to do in the postproduction stage, since the image was not being animated. For the stones in front of the tank, I used an image of dirt and set the layer to Multiply. The same process was used to make the wood at the window look older and more beaten. Oily splatches were then added to the stand by setting an oily layer set to Overlay. The bronze plates on the front of the stand needed a bit more colour, so I painted the desired tinting on a new layer and set it to Color Dodge at 30%. Some plants were added to fill in the scene, making it a bit more robust. I wasn't completely happy with the bonsai trunk or roots, so I decided to use a combination of images and painting. To soften the rendering, a selection was made



K The waterfall was created using several planes with segments that overlapped each other



L The moss was created by duplicating rocks and changing their material properties with different Displacement maps

M The plants and ferns were created through deforming and editing poly shapes and changing the opacity of some of them



32 hours
Render time
Resolution:
3,508 x 2,480

of the image highlights and then feathered with a fill of white and a layer transparency set to around 30%.

15 Postproduction inside the tank

I knew I would have to do an enormous amount of postproduction to get the look I wanted. The moss created from the displacement didn't look puffy enough, so more moss was added by painting into desired locations. Some plants, frogs, fish and water were added in with a combination of painting and the use of masked images. For the algae, a green tint was painted and the layer set to Color. A layer with drips was added to the glass and set to Soft Light at 61%. More entities, such as flies, water splashes and dirt, were added to complete the detailing.

“Some plants, frogs, fish and water were added in with painting and the use of masked images”

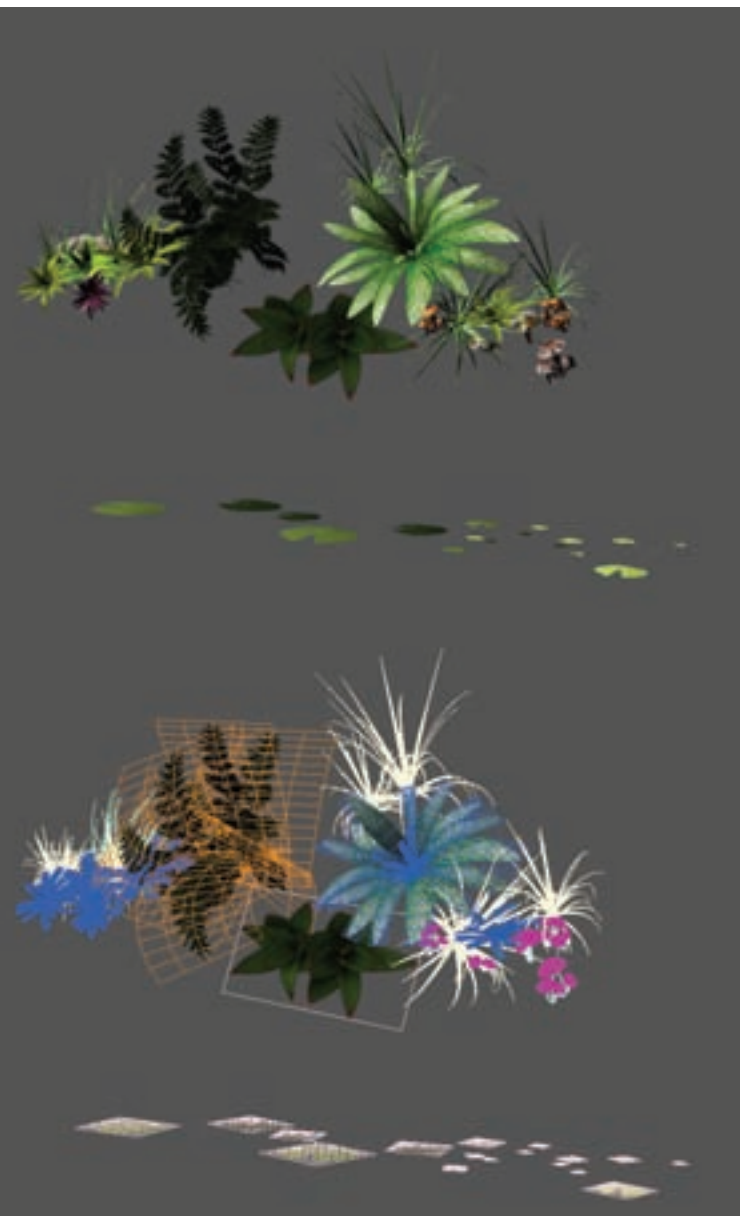


Before adjustments

N The lighting differences are in the details



After adjustments



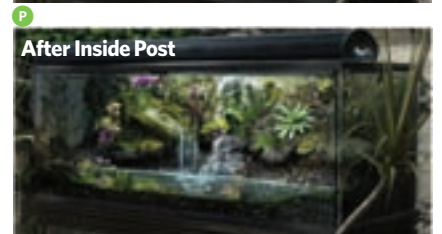
Before Outside Post



After Outside Post



Before Inside Post



After Inside Post

O Postproduction for the outside of the tank, producing a more robust environment

P This is the completed tank detailing, which involved a long process within Photoshop

I made this...

Incredible 3D artists take us behind their artwork

Artist info



Dieter Meyer

3DArtistonline

Username: Deetz

Personal portfolio site
www.cg-artworks.com

Country: Canada

Software used: modo, Photoshop and Painter

“The model was made in modo 301, coming out as highly detailed with fully functional landing gear and wheel well doors. I left most of the detail out of the cockpit as it is rarely seen, and relied on textures for any details I needed. Each aircraft in the image has its own separate texture map”

Since it's very bright above the clouds, a single Directional light was used with sharp shadows along with Global Illumination. A slight yellow tint was added to the light. The light reflects off the cloud layer, so an Area light was positioned under each jet to help illuminate the underside better



Software used in this piece

modo

Photoshop

Painter

“Once each aircraft was rendered, I composited them on separate layers for the final adjustment. Extra scratches or textures were added at this point as well as the vapour trails. A one- or two-pixel blur was added to the exterior of each aircraft to help blend it into the background”

Each aircraft was rendered separately with an Occlusion, Specular and Reflection pass that I could tweak later on. I always make many final changes to the overall image in Photoshop after rendering

Galland's Aces 2009

The background is a composite of several pictures of clouds that I had taken. Once I had the clouds positioned where I liked them, I created the sky and painted in some faint clouds for extra variations in colour.





Software used in this piece

3ds Max

Photoshop

mental ray

Step by step: Create a cartoon zombie pirate

Step by step

Easy -to-follow guides take you from concept to the final render

Artist info



Luis Arizaga

Personal portfolio site
www.digital-rebel.com

Country Spain

Software used 3ds Max, mental ray, Photoshop

Expertise I specialise in the creation of digital characters, including concept design as well as development

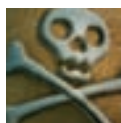
Pirate LeChuck 2009

“ I was looking to represent a digital character with a strong personality in a cartoon format to show my capabilities in this field. I chose the zombie pirate as I was inspired by old illustrations created for graphic adventures ”

Luis Arizaga works as a character artist at DigitalRebel

For the modelling in this tutorial, I basically used a polygonal method. I mapped all the objects in 3ds Max, while the scene was illuminated using a simple light setup of three lights with an HDRI image. Textures were painted by hand and combined with photographs in Photoshop, while mental ray was the chosen software for rendering. Postproduction work took place in Photoshop with a matte painting for the background.

In any work, you always meet some difficulties that you have to solve before finishing the project. Finding a good solution for the hair was a particular challenge to overcome with this character, especially the beard, while the clothes also proved to be a nuisance at times. All the little troubles I found were solved without too much fuss. There were two solutions for the hair: a traditional use of alpha images, a trick from the videogame industry, and the another was more accurate for animation.



Design concepts

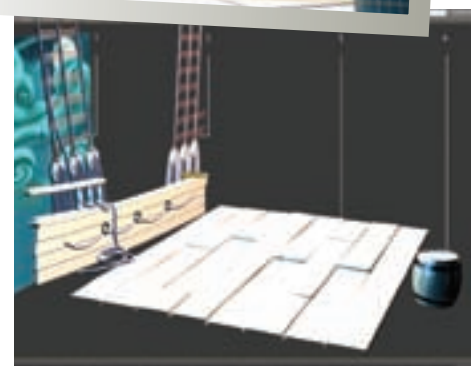
Rough ideas



01 The first step was to obtain good references of game cover illustrations and pirate images from the internet. Specifically, I looked for works made with traditional art. I found very good high-resolution images and a lot of information about this genre. Films and comic illustration were also a good source of references. It took me two days doing this task, during which I collected a lot of images, some of which you can see here.



02 My idea was to show the character in some kind of a situation where personality, action and aspect should all jump out. A zombie pirate doing voodoo was pretty cool. At this point I must give credit to Steve Purcell because the main inspiration came from the 2D work he did for the cover of a classic videogame published in 1991.



03 To show the character in the world in which he exists as well as to give more mood, I developed an environment for him. I divided the scenario in four different stages or layers: the first layer was the foreground, the second had the floor and the character, the third was for the background objects and the last was matte painting.

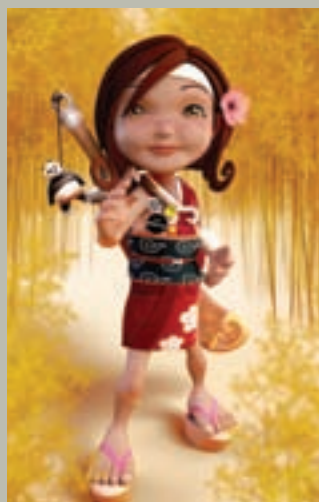
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Artist Showcase

Luis Arizaga Rico

I started in this field about three years ago. I feel very fortunate since I found out what I like to do. At the moment I am still broadening my portfolio and finding ways to promote my work. I've started my own studio that specialises in cartoon-style character design and its animation.



I love Kungfu 3ds Max, mental ray and Photoshop 2009

The idea was to create a cute character. It's obvious that I was influenced by the kung fu cartoon films and Japanese anime 'chibi' characters. I also have family in Japan. It was easy to create her, as I took a lot of photos from the odd fashion of real people for use as reference. My three-year-old daughter also encouraged me to do this character. She loves it!



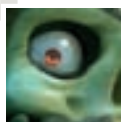
Captain Bone Crusher 3ds Max, mental ray and Photoshop 2008

I wanted to create a realistic character. Captain Bone Crusher fits in a line from the videogame industry. The idea was to have a wide range of characters in my portfolio to express my capacity and skills. I was influenced by the art of Mario Alberti in one of his comics. The arm has influences from anime films.



Gorilla's Day 3ds Max, mental ray and Photoshop 2009

I was thinking about doing a cartoon animal, and I chose to do a gorilla to test the hair problem (digitally speaking). I was surprised when I saw the work of a colleague who had done a perfect wolf with all his fur in a perfect look. So I decided to create a character of my own that has lots of hair.

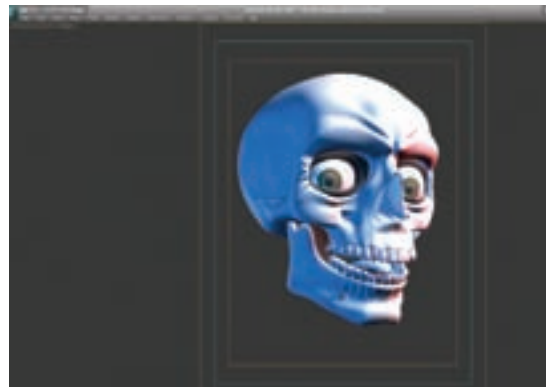


Modelling

How the elements were put together

Overview

The modelling process is an intricate business, so to give a quick overview, I began by modelling the character's head and moved on to blocking the main volumes. At this stage, it was important that I took great care to get the whole body's proportions and shapes accurate to the original concept. I then placed the elements accordingly that would define the character, without adding too many details, and put them all together in a rough environment to finish the modelling stage.



04 When I decided the volumes were correct and the objects were well positioned, I started to detail them individually. I like to start with the head because I have an idea of the face and its personality, so I can then work better with the rest of the character's elements. In this case, I started the head using a skull from a skeleton that I had modelled before.

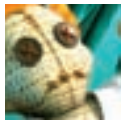


05 I like to work with polygons and try to maintain quad polygons throughout the process. I choose this standard because it's perfect for going from one software to another without any problems. I tend to start from a polygonal box geometry or a simple polygon, but when it's necessary I use any other technique that can be transformed to an editable poly.

06 I would love it if my characters had the chance to be animated and have life so that they can tell stories. The main purpose of my work at this stage is to model while thinking about the animator. For this reason, I took care of geometry in compromised areas, making sure I added enough detail. Then I refined all the edge loops so they matched with the anatomy and made animation more comfortable.



07 At this point, I started modelling the environment and props for the background and foreground. I only used elements that work well with the character's concept. I like to make the UV mapping work during the modelling process. With this method, I have all the objects with mapped co-ordinates done at the end.

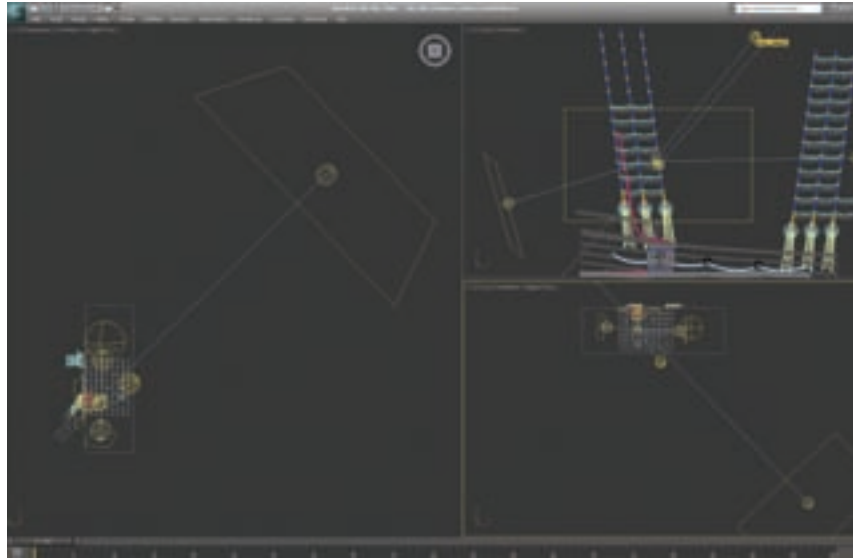


Lighting and rendering

Put the final touches in place

08 The lighting setup

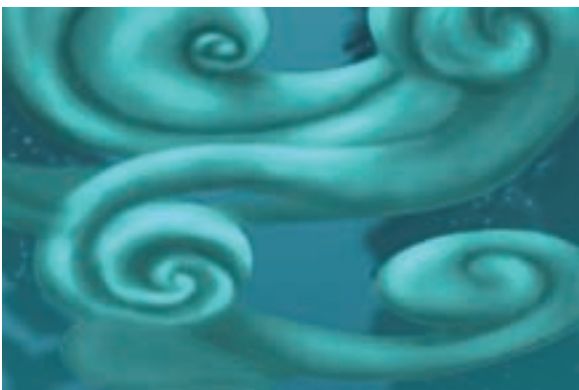
consists of three Rim lights, which give more detail to the character's shapes and better defines his silhouette. One light was used to define the main shadows, and another light was used to control the intensity of reflections from the eyes and metallic objects. Additionally, a Sky light to control the HDR image illumination was used to achieve high-quality reflections.



09 At this point, I did tests of shaders with different textures of different kinds of materials in the scene. I didn't need to worry about render times because I did quick tests with low parameters and had feedback very quickly. The materials for all the objects used several kind of shaders, most of them mental ray's Arch & Design.



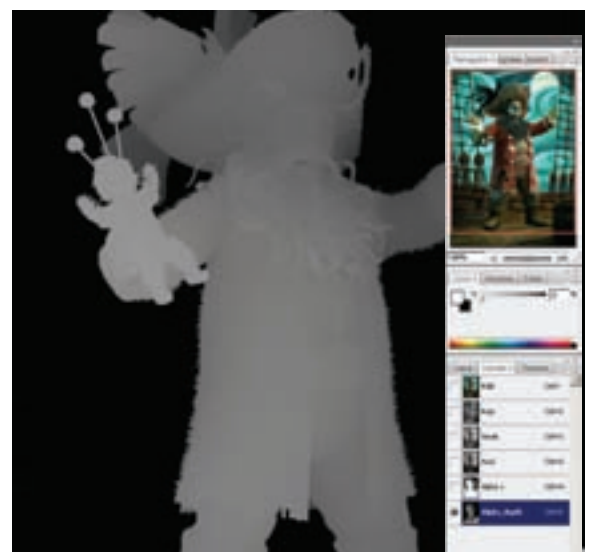
10 The render engine was mental ray and for the indirect illumination I used the Final Gather high-quality preset with 0 diffuse bounces. I didn't use Global Illumination. For the cloth fur, I used the native 3ds Max tools integrated with the mental ray renderer. It increased the render time, but I achieved the best results in a single pass. A depth of field and an Ambient Occlusion pass were done, too. Most of the work comes during the postproduction and composition of the rendered image with all the other rendered passes.



11 I developed a matte painting background for the character's illustration that matched with the cartoon concept. It gave an interesting mood of mystery. Round shapes work well in a cartoon environment design. The clouds were finished with round volumes and placed where they could help the viewer's eye follow around all of the character's elements.

12 I did colour

correction, Levels correction and some tricks to sharpen or blur parts of the image in Photoshop. Glows from certain elements, like metallic buttons, eyes or moonlight, were painted by hand on additional layers blended in several modes depending on the effect. Matte paint was put in the background and colour-corrected to match the character. A depth of field effect was achieved here.



Hair

I found that good hair for 3D animation or on complicated surfaces takes a lot of time to render in a single computer with today's hair solutions in a non-native render engine (I did this work on a powerful workstation). There are a lot of tricks that helped me. I used specific render shaders programmed by a third party and I optimised the hair parameters. Depending on the surface distribution, it decreases render time a lot.

Another option for fast production is to do a different pass for the hair with a native render from the 3D package software and composite it. This last solution sometimes doesn't give good shadows for the hair.

I found that the best way to solve this problem depends on what kind of design you are looking for and what hair properties you want to control. In the end I used a good combination of hair simulation and textures.

2 hours
render time
Resolution:
3,300 x 2,475

I made this...

Incredible 3D artists take us behind their artwork

Artist info



Chris Shepherd

3DArtistonline

Username: TimeBandit

Personal portfolio site

www.luxology.com/community/profile.aspx?name=Time.Bandit

Country USA

Software used Luxology modo 302, Corel PHOTO-PAINT X4

For the lighting I used GI with Irradiance Caching on, a four-colour gradient environment material and one Directional light

Comment on this piece

Register with us today at

3DArtistonline.com

www.3dartistonline.com
to view the art and chat to the artist

“With all the reflections, displacement (mostly the water) and SSS, I had to really juggle the render settings to come up with quality on top of a reasonable render time. I like to think that I succeeded”

Dastardly Duck 2009

You know those duck races? Well, what if one of them is a psychopath who would do anything to win? The idea here is to portray an evil duck leaving some dead ducks in his wake on the way to the finish line.

“The water is just a subdivided plane. I pushed and pulled the vertices to make the larger waves. Next, I added a water shader, then a micro-poly displacement material to make the disturbance”

Software used in this piece

modo 302

PHOTO-PAINT X4

“I used box modelling to make the subject based on a rubber duck toy that I bought for 25 cents. It started out just as a modelling exercise. The duck’s facial features were sculpted and painted in modo”

Step by step

Easy-to-follow guides take you from concept to the final render

Artist info



Ryan W. Knope

3DArtistonline

Username: RWKnope

Personal portfolio site

www.ryanknope.com

Country United States

Software used 3ds Max, mental ray, Photoshop

Expertise Architectural visualisation, interiors, modelling, lighting, texturing and materials

Step by step: Create a waterfront city scene

City By The Water 2009

Ryan W. Knope is a freelance 3D artist formerly of RNL Design and Rockland Studios

“This was created for the Urban Design and Landscape Architecture department as a rendering marketing piece”

Concepts,
modelling,
lighting,
post-prod

Software used in this piece

3ds Max

mental
ray

Photoshop



RNL is an international architecture, planning, interior design and landscape architecture firm, with offices in Los Angeles, Denver and Phoenix, along with a location in Abu Dhabi, UAE. We offer our clients the hands-on service of a local firm, backed by the depth of resources of a global practice.



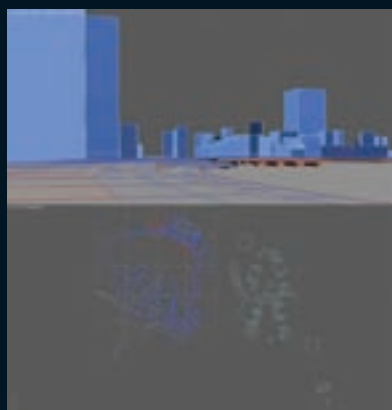
This rendering was inspired by the Urban Design and Landscape Architecture department (UDLA) at RNL Design to showcase the company's abilities in both visualisation and landscape design. The only hindering action was having to continue the rendering as it was being developed. The poly count got up to 5.6 million and our machines in the workplace had a hard time handling the rendering. No third-party plug-ins were used; I was supplied with a basic model of the boardwalk and went from there. Constant layout support for my design and visualisation came from Trent Cito.

The rendering was completed over three months while other projects came and went. I was planning more for the rendering, such as displacement and finer materials, but ran out of processing power and time, which is unfortunately a common occurrence to many in the trade.



01 First of all, I used a pencil to sketch a very quick and basic layout of the environment based on the boardwalk model. This gave my supervisors an idea of what I was planning and helped me generate a base.

02 For starters, the basic boardwalk model I was given hinted at the premise of design. I was allowed artistic freedom to build from it within reason. Since the emphasis was more on landscape than architecture, I decided to focus my work on the feel of walking around this harbour rather than on the construction of the city.

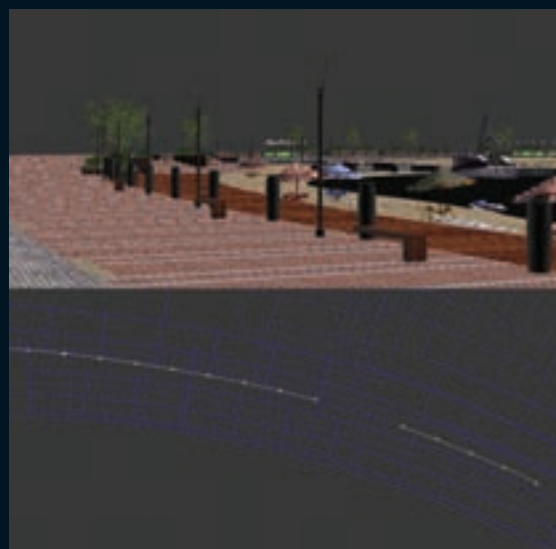


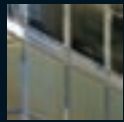
03 Blocking out the building locations was the next stage of creation. Aiding composition and backing the composure of the scene was a crucial element to planning in order to save time. This made it easy to plan for the composition of the foreground and backdrop.

Concepts

I started building the scene under very loose guidelines; in fact, only a verbal concept from Cito. The concept was later defined in casual conversation and with sketches. Ideas varied greatly from blocking out to the actual structure.

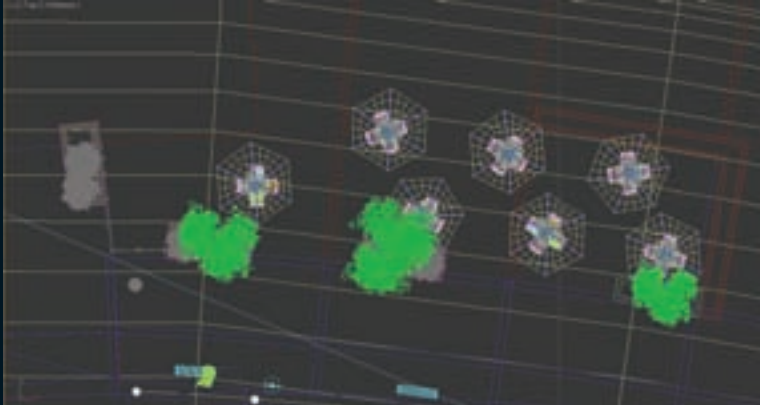
04 I used the Spacing tool for most of the details around the walk. It allowed me to use a spline to evenly and easily array an object or group. Placing random objects around the beach and water took a bit more time. I had to place them one by one while hiding certain selection sets.





Modelling

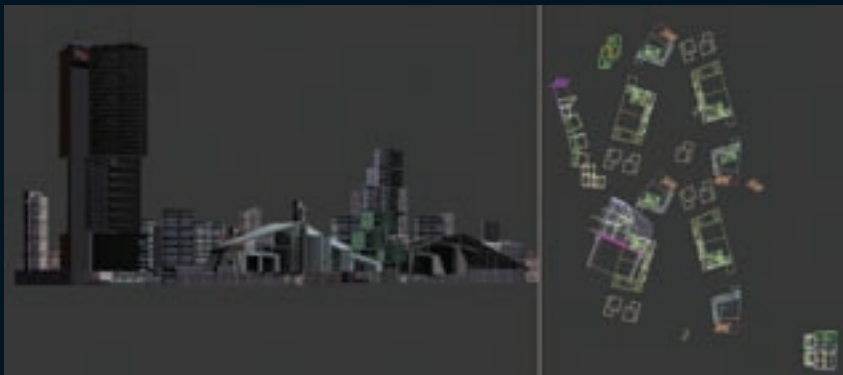
How the elements were put together



05 The patio objects were then placed in a visually pleasing arrangement to show off both the plants and people. They had to be rearranged a few times to get the right look. I wanted the umbrellas to be colourful but not obnoxious, so they would not take away from or overpower the landscaping colour.



06 The foreground building was created using a template from our architectural library. While editing the building, I created a separate 3ds Max file, rotated it to be straight and edited from there, each time using the same sun, sky and camera setup as the main scene. I edited only those spots that could be seen in the render. Afterwards, I merged the file back in and rotated it for proper placement. I was constantly editing this building.



07 Once boxing placement for background buildings was verified, I went through our building library to find structures of similar size and detailing to fit. These were then edited and set into the proper locations. The buildings on the waterfront were sketched a few times and then built from scratch.

“Planning was crucial to the process due to the many buildings, plants and polys”

09 mental ray was the render engine of choice. Samples were set to a Minimum of 4 and a Maximum of 16 with BSP2 Raytrace Acceleration because of the poly count. Filter type was set to Mitchell and Force 2-Sided was turned on. mr Photographic Exposure Control was used and the settings were adjusted for output.



Planning



Planning was crucial to the process due to the many objects, buildings, plants and polys. UDLA helped a great deal. Printing out the progress renders as much as possible is another saver. The ability to sketch on them was helpful, as I could see how things would look before spending the time to create them in 3D space. I usually print and mark up my renders every few hours and wind up with a stack of over 60 sheets by the end of the project. Planning simply saves long hours, even days.



Post production

Populating the scene

10 hours
Render time
Resolution:
3,000 X 2,200



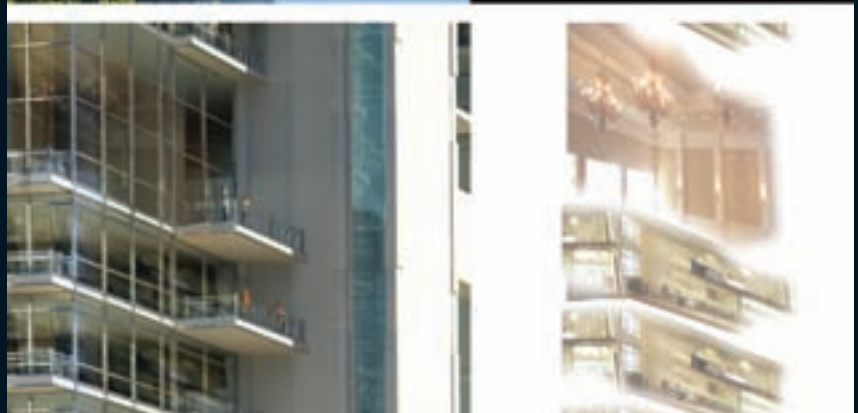
10 RNL did not have enough 3D people to satisfy the need for active population, so people were also added in postproduction. I used a tried-and-trusted technique and added a few people in 3D to aid in sizing, making it easier to keep people in scale. Shadows also had to be added matching the shade, scale and direction. By rotating the selection, scaling and paint.



11 Hundreds of plants were added in postproduction all the way around the harbour. Layers of leaves were also placed over the top of the 3D trees to give them a fuller look. Bright splashes of colourful flowers were used to make the landscape pop from a distance.

Time-consuming building details

Modelling for this scene was troublesome at times. Some of the buildings were odd shapes. Editing and detailing took a lot of patience and hard work. Things such as the window mullions and balconies did not always line up and could not always be instanced down, which made the time spent on them exhaustive. This is especially true for the foreground building on the left. Towards the end of the project, I was also asked to add buildings along the far side of the boardwalk that would add more character to the scene. This pushed the poly limit further. These were built in another scene and then placed in.



12 The last piece of postproduction that I usually add is something that I call 'romance', which includes highlights, light glows, reflection overlays, softening haze effects and other aspects. This builds the mood and pulls the viewer in. This is done with layers set to Multiply, Overlay, Linear Dodge and so on.



Not just for dummies



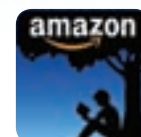
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Create a realistic boxer

The Boxer 2009

“ I wanted to create a powerful yet simple character that would further my grasp of anatomy, lighting and rendering ”

Jeff Miller is a freelance character artist who has been in the industry since 2001



retopoligise it later on when I had something I liked. I don't even bother with fingers when I am doing a concept sketch, and in this case he ended up wearing gloves anyway. I subdivided a couple of times to get enough polys to work with, and used the Scale and Rotate tools as well as the Move brush to get the proportions looking right. For the large shapes and muscle masses, I mainly used the Clay Tubes brush. Then, using the Clay brush, I smoothed out the mesh to get something that looked good enough to retopoligise.

02 Retopoligise the mesh

Using ZBrush's Retopology tools, I created a new mesh, adding more resolution to the areas that needed more attention. I also broke up the mesh into an upper body and lower body so that I could subdivide more times, and got rid of the hands completely since he would be wearing boxing gloves. I projected the detail from the concept sculpt onto the new mesh, and subdivided a couple more times to start refining. Although ZBrush can handle more polygons per mesh, I try to keep each mesh under eight million polys.

Creating CG art can sometimes be a very long and tedious process. Technical issues, crashes and long render times can all detract from the connection to the artwork. This is why I think it is so important to be spontaneous and experimental when you have the time. You may find that you create some of your best pieces without thinking them through ahead of time. In this tutorial, I will walk you through the creation of the character from *The Boxer*. He started out as a simple anatomy study in ZBrush, but as I sculpted I started to see the face of a rugged boxer emerge. So much of my professional career is spent meticulously following concept art that the chance to follow a spontaneous inspiration to completion was very exciting. When I finished the final render, I decided to go back and do a second illustration showing him bloodied and defeated. The bulk of the modelling and texturing was done in ZBrush. I finished the textures in Photoshop, and rendered him in 3ds Max with mental ray.

01 Model the body and head

I started by creating a simple mesh from ZSpheres. I didn't worry about making it perfect because I knew I would

behind the scenes

3D artists explain the techniques behind their amazing artwork



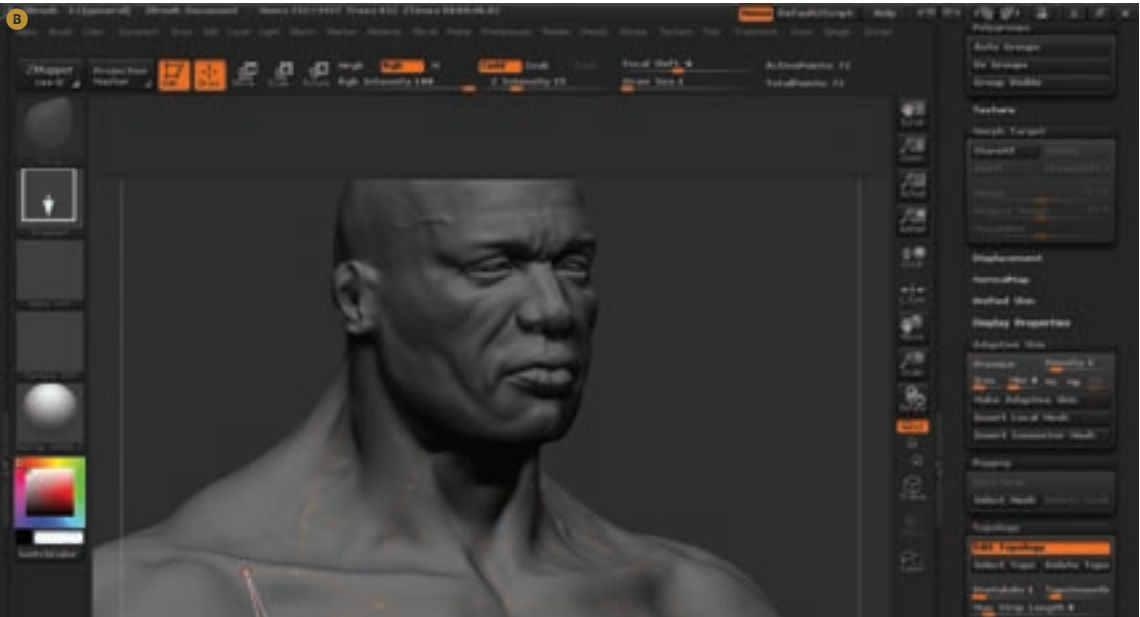
Artist info
Jeff Miller
3DArtistonline
Username: Red Republik
Personal portfolio site
www.thenewred.com
Country USA
Software used ZBrush, 3ds Max, Photoshop
Expertise Modelling, texturing and rendering

Concept

I didn't create an initial concept for the boxer character as such. Instead, I regard the first few hours that I spent in ZBrush to be the concept phase for this particular figure.

A Start with a rough ZSphere model, subdivide a few times and quickly paint in your detail

B ZBrush lets you build right on top of your model to make great topology



Modelling,
texturing,
rendering

Software used in this piece

3ds Max

ZBrush

Photoshop

Model the boxer

The most important part of the majority of characters is the face, and that is especially true with the boxer since he doesn't have a lot of gear or guns to distract the viewer. I studied many faces and ended up with a mixture of features from several of my references, rather than trying to emulate a particular individual.

C Work with as many subtools as you can to keep the poly count of each one down

03 Create the subtools

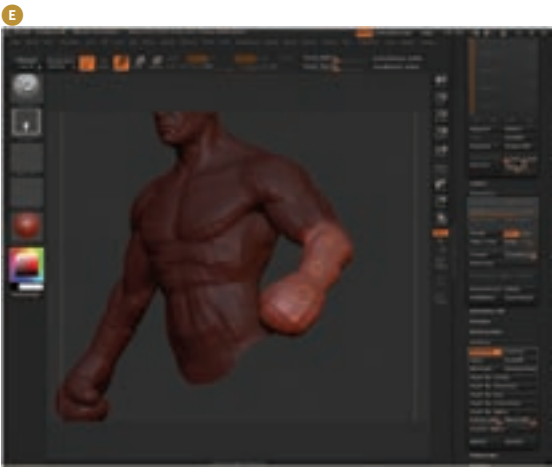
Next, I needed to add the other components that would make him a boxer. For the shorts, I use the same Retopology tools as before to create a base mesh, but this time I didn't project the details. I inflated them so they didn't fit so tight, detailing them up with the Clay Tubes and the Standard brushes. For the gloves, I tried making them in ZBrush from ZSpheres, but for some reason I wasn't getting the shape right, so I ended up modelling them in 3ds Max and bringing them into ZBrush for detailing.

04 Unwrap the mesh

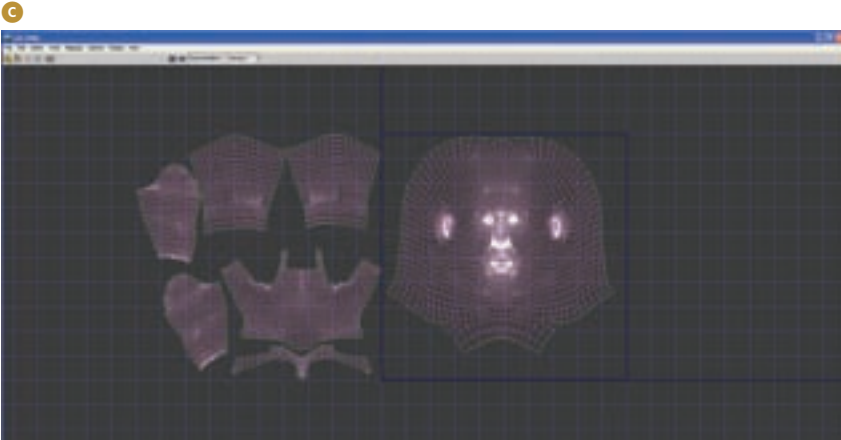
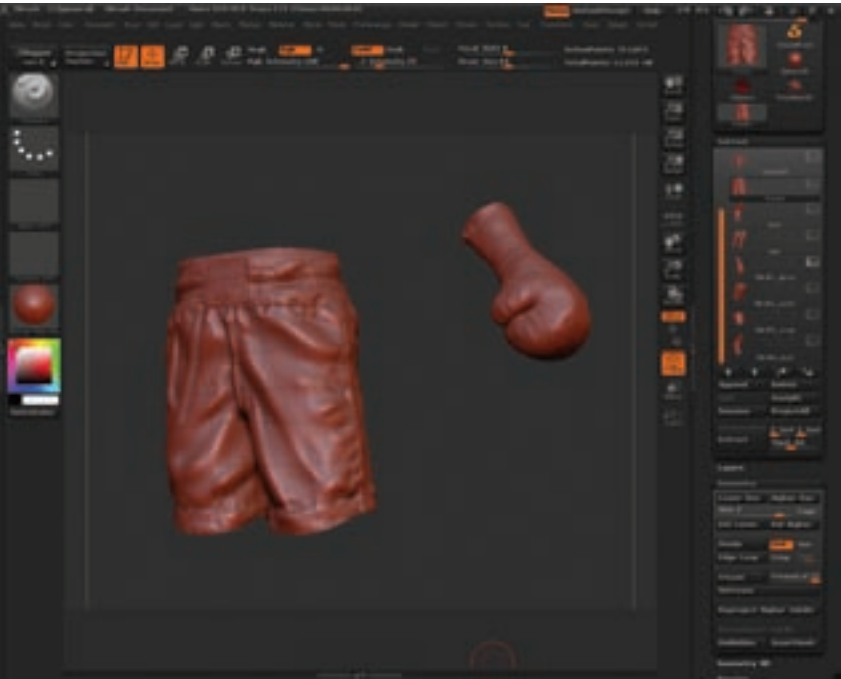
Thanks to 3ds Max's Pelt and Relax tools, unwrapping is pretty easy. You don't need to worry too much about each area having the same resolution if you are painting your textures in ZBrush, but you will need to pay more attention to this if you are planning on overlaying photos or patterns in Photoshop. I split the head off from the body in order to give it the room it needs. I didn't worry about neck seams, as I would be painting directly on the mesh in ZBrush.

05 Pose using Transpose Master

Due to the character being fully organic and consisting of



only a few elements, I didn't see any reason to rig it in 3ds Max. Instead, I used Transpose Master inside ZBrush. Transpose Master allows you to pose all of your subtools at the same time. With the basic pose done, I then refined the articulation of the torso, making sure that all the muscles looked correct in the new pose. Posing with Transpose Master only takes a couple of minutes, and can be a fantastic timesaver as an alternative to rigging the whole mesh in another application.



06 Displacement and Normal maps

When I was satisfied with the pose, I stepped each subtool down to the subdivision level that I thought would render the best, and used ZBrush's Multi Displacement plug-in to generate a Displacement map. I also generated a Normal map from one or two subdivision levels higher. By combining a Normal map and Displacement map, I can cheat and use a lower displacement render setting in 3ds Max to save on render time. The Normal map makes up for any of the small details that are lost by doing this. The torso model that I brought into 3ds Max is around 17,000 polys.

07 Light the mesh

Next, I brought all of the meshes into 3ds Max to start the lighting. I always start the lighting without any textures on the model, as it makes it easier to see the balance of detail. I downloaded as many reference images as I could find of boxing matches. I typically work with a modified three-point

D Unwrap the head separately, in case you want to render a close-up portrait

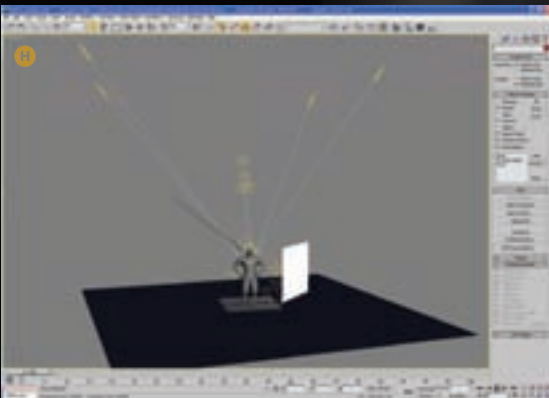
F Once you overcome the bizarre interface, Displacement Exporter gives you great results. Try these settings

E Transpose Master lets you pose your subtools all at once so they will all be aligned

“ It was a challenge not to lose depth, which can often happen when the model is overlit ”

G Test each light separately in order to make sure you are getting the results you want. Geometry with Self Illumination will also light the scene

H Test lights on a grey mesh without the Displacement maps on to save render time



Lighting

The lighting setup took dozens of test renders to figure out. I used many more lights than I normally would in order to get the feel of a well-lit sporting venue. It was a challenge not to lose depth, which can often happen when the model is overlit. I didn't use any Photometric lights, opting instead for an mr Area Spot light for the key, several Point lights positioned behind the body for rim lighting and a Sky light plus four Spot lights for the fill lighting. I also placed a bright light blue plane underneath the character to reflect some light coming from the mat.

Artist Showcase

Jeff Miller

Jeff Miller graduated in 2001 with a degree in Illustration. He worked at various companies in the game industry, ending up as a lead character artist at companies such as Monolith and LucasArts.



Halo Wars Brute Chief 3ds Max, ZBrush, Photoshop (2008)
This was a marketing piece done for the hit game *Halo Wars*. The deadline was really tight, about six days



Soldier ZBrush, 3ds Max, Photoshop (2008)
This was a personal piece that was meant to push the amount of modelling I could do in ZBrush in contrast to 3ds Max. In practice that meant a lot more shaping of soft fabric folds and a more organic look to the entire image than if I had made it in 3ds Max



Revenge 3ds Max, Photoshop (2009)
I created this game character for the Dominance War IV competition. Hard-surface modelling doesn't come as naturally to me, so I like to practise when I can

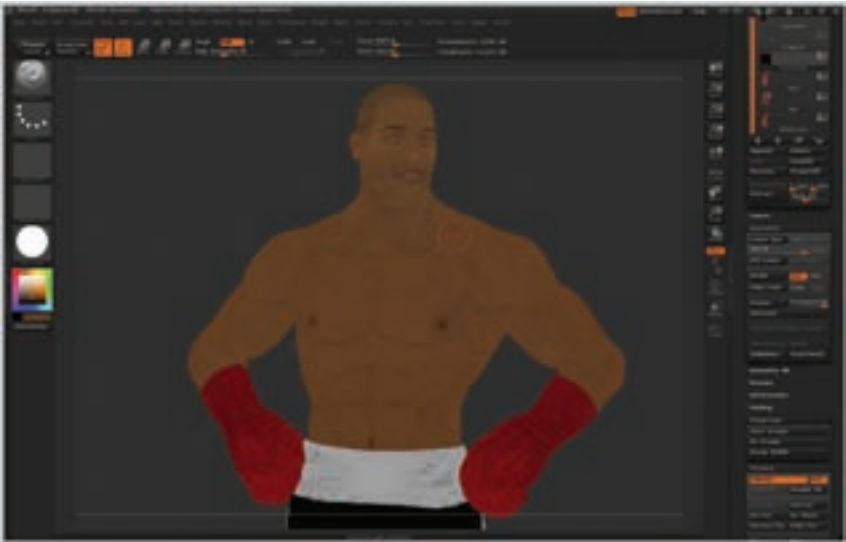
“If you have subdivided enough, you will have plenty of resolution to get the details you need”

ⓘ Different alphas and opacities will create realistic skin textures

+ lighting rig, but this time around I had to change it to get the feel of a sporting arena without sacrificing the moodiness I strive for in my pieces.

08 Texturing in ZBrush

The diffuse textures were created by polypainting directly on the mesh in ZBrush. If you have subdivided enough times, you will have plenty of resolution to get all of the details you need. I also painted the glossy Specular map for the skin in ZBrush. I wanted precise control over these highlights, because they are what sell the skin. I generated Cavity maps for all of the subtools that I will use to overlay on top of various textures in Photoshop.



09 Texturing in Photoshop

I brought the maps I created in ZBrush into Photoshop and added some extra details with a fine brush. To make the subdermal skin maps, I started with the Diffuse map, cranked up the saturation and shifted it into the orange range. I painted in veins and variations, and even ran some filters to rough it up. The gloves and shorts textures are almost flat colours, with only minimal variations. I painted some additional skin maps and took them all back into ZBrush to clean up the seams on the model.



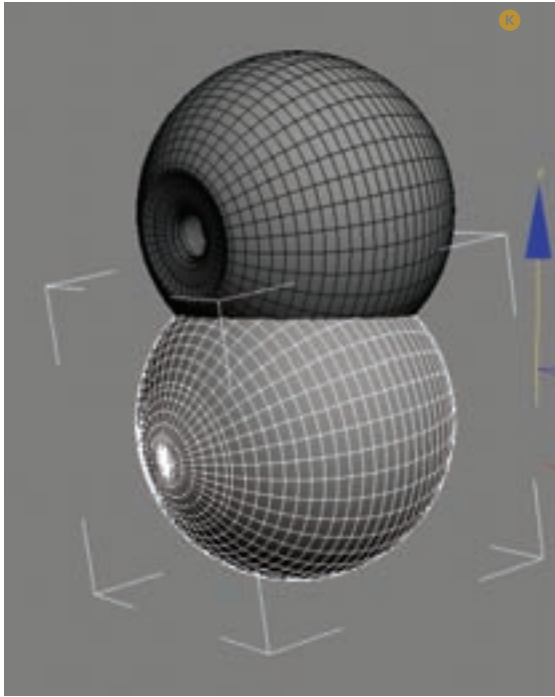
10 Making the skin

3ds Max has some great materials for creating skin, but they can be a little overwhelming at first glance. I used SSS Fast Skin with Displacement. I started by setting the Spec, Epidermal, Subdermal and Unscattered Diffuse weights to 0 so that I could focus only on the Back Surface Scatter. I then applied the material to the mesh and hit Render. At this point, the model looked black with red showing through areas that are backlit, like the ears. In areas where there's too much red bleeding through or where it's all black, I adjusted the scale conversion factor, which works in real-world units. I ended up with a value of .4. I started to add the other maps one at a time and turning the weights back to the defaults as a starting point. Finally, I added in the Specular map.

11 Don't neglect the eyes

I created the eyes using two spheres. The inner sphere is modelled to represent the iris and pupil. I used a SSS Fast Material in order to have a little bit of subsurface scattering. The outer sphere represents the sclera, and is much shinier. I

Ⓜ Deal with the material one parameter at a time; you don't need to put a map in each slot



only linked one light to the outer sphere so there is a single highlight. Too many highlights on the eye can make a character look confused.

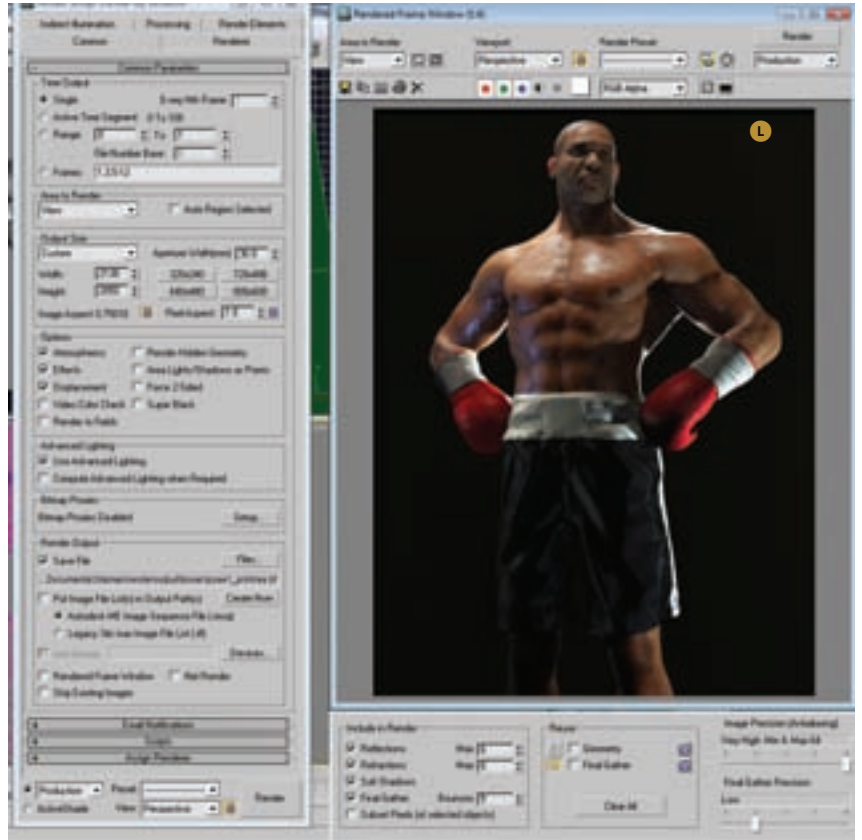
12 Rendering and post

There is nothing worse than setting up a long render only to find that you have left something out. I rendered with Final Gather set to low and Anti-Aliasing set to high. I also rendered an Ambient Occlusion pass. In Photoshop I used the Ambient Occlusion as a Multiply layer to bring out some of the details that got lost in the render. I played with the Hue/Saturation and Levels until I was happy, and then added a little bit of a bloom to the rim highlights with an Airbrush to simulate the glare of the bright lights.

13 The second pose

After I finished the first render, I decided that I wanted to pose him again and create a version of his defeat. I went into Transpose Master to quickly create a new pose, then I polypainted some blood to add to the skin material. Plugging the blood map from ZBrush into Overall Diffuse Coloration gave me the best results. I also inverted the blood map and added it as a screen layer to the Spec maps. I had to move a few lights around since the pose changed, but that was it.

“I only linked one light to the outer sphere for a single highlight. Many highlights on the eye can make a character look confused”



K Make a good set of eyes, and you will never have to make them again. Simply change the colour

L Most of 3ds Max's render settings are pretty self-explanatory. Make sure you turn on Final Gather

M You spent all this time making a great model, so get some extra mileage out of it

Rendering

When doing my test renders, I kept the setting low so that I could keep the render times as short as possible. I regard the rendering stage as one of the most iterative parts of the whole process. Think of the character as part of a scene that extends beyond the render window.

17 hours
Render time
Resolution:
3,125 X 2,455

I made this...

Incredible 3D artists take us behind their artwork

Artist info



Xiaoge Liu

Personal portfolio site
www.exquisitus3d.com

Country China

Software used 3ds Max, Photoshop



“The lighting design for the boats also had to be based on the light source in the background photos”

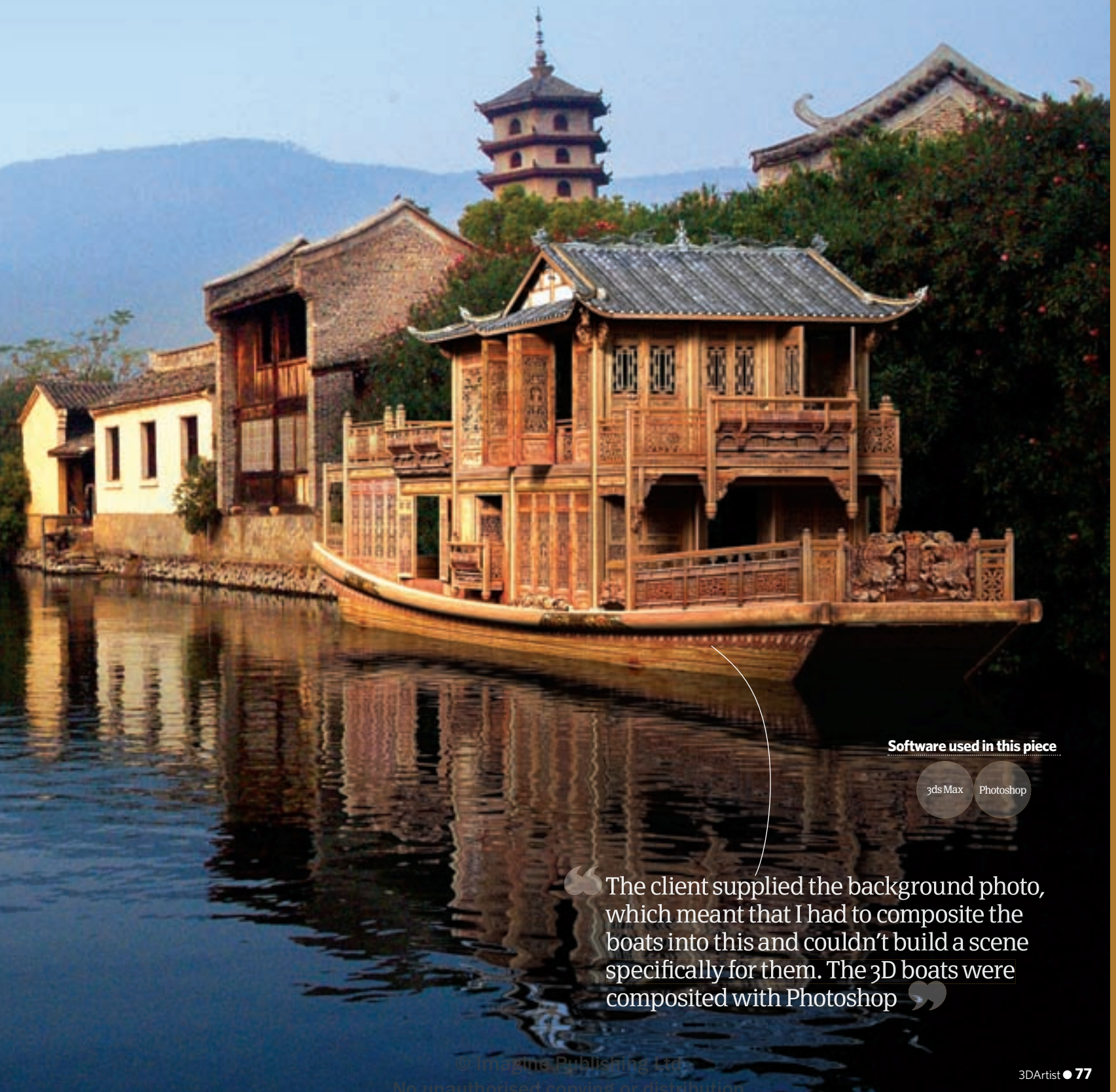
Drifting luxury residential 2007

This is a yacht design project. I needed to design a luxurious yacht in the style of a 500-year-old Chinese design. In order to complete the task, I tried to collect information first, which took 20 days and meant that I covered 4,000 kilometres. Subsequently, 20 days were spent designing the model and painting. The background is a photo into which the boat - rendered in 3ds Max - has been placed. The scene shows the yacht in its natural environment, sailing away after fulfilling local needs.

“I used the VR rendering software with the standard or default settings”



“ The process of creating a model was somewhat different than usual. I didn't have to create the model first and then assign the material; instead, it was modelled and the materials that were to be used needed approval ”



Software used in this piece

3ds Max

Photoshop

“ The client supplied the background photo, which meant that I had to composite the boats into this and couldn't build a scene specifically for them. The 3D boats were composited with Photoshop ”

Step by step

Easy-to-follow guides take you from concept to the final render

Artist info



Zaw Ye Myint

3DArtistonline

Username: ZawZaw

Personal portfolio site
<http://putooxor.deviantart.com/>

Country Myanmar

Software used 3ds Max, ZBrush and Photoshop

Expertise My work always looks like it has a hint of a cartoon style, but not too much. Making a realistic scene isn't beyond me, though. It's more that if I have to pick a colour, I always select something bright and cute

Step by step: Create a South Seas paradise

Fisherman's House 2009

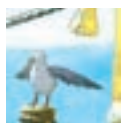
“The idea was to create a happy house in the South Seas for a fisherman. I added some accessories to the house taken from a submarine, like the steel window”

Zaw Ye Myint is a freelance 3D modeller

To make this project, 3ds Max, mental ray, ZBrush and Photoshop were all used at various points. It may appear that a toon shader was used in rendering, but it wasn't; what I did do was to make some strokes over the house in Photoshop, which made the house look like a cel-shaded render. I only used mental ray with standard shaders (blinn, metal, etc) and applied some colour correction in Photoshop.

About 70 per cent of the underwater scene was made in Photoshop. There, all the objects were rendered separately and composited into the main image. I then used various Photoshop brushes to paint over the objects in order to blend them in.

I have found that many tutorials write about texture work but my advice is to set up the lighting before texturing your models, rather than texturing then lighting.



Design concepts

Rough ideas to designing the model



01 To begin with, I drew a sketch on paper. It is good practice to see clearly what you are going to make first. Before I started modelling, I placed a camera in the scene and set the render image size. This meant that I could check the shape of my model at any time using the view from the camera.

02 I didn't want a very straight form for the house. I wanted to give the house more of a cartoon and fun look, and 3ds Max has modifiers for that. I used Taper, Bend and Twist modifiers for the curve shape. Throughout the modelling stage, from sketch to 3D, some ideas were discarded and some new ideas were added.

03 If a scene has no people or animals, it looks very silent. For this reason, I like to add small animals in my work. I searched on the internet for both photographs and cartoons of animals that I could use in my work, then decided to make them later in ZBrush.

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Modelling,
lighting,
rendering



On the Disc

fishermanhouse.max

The Max format scene file
minus the textures is on the
disc with a couple of alpha maps

Software used in this piece

3ds Max

ZBrush

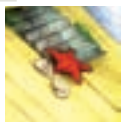
Photoshop

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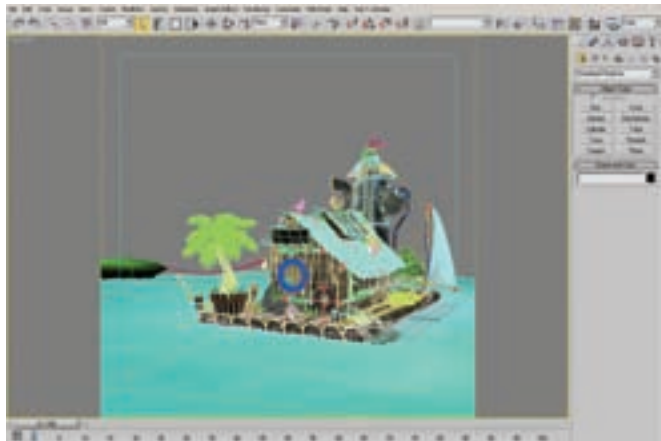


3DArtist ● 79

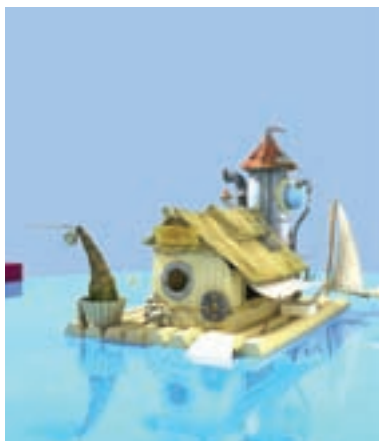


Modelling

How the elements were put together



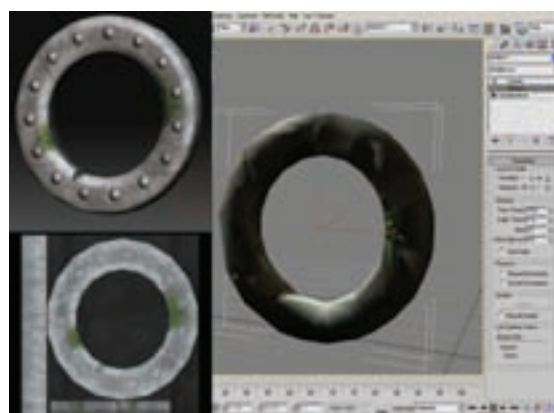
04 To begin with, I kept the first few steps of modelling simple. Eventually, I added details and it began to morph into a complex shape. I worked on some objects separately in a different file, then when the time came to render I put all objects together in one file.



05 This screenshot shows the work in progress so far. I got the render file from my backups. I saved it many times while working, making sure that I had backups. This was made all the more important because I was modelling and texturing together at same time.



06 ZBrush is a very powerful tool for detailing 3D models. I always check the UVs on my imported meshes before sculpting in ZBrush by clicking the UV Check button. The texture was made by polypainting in ZBrush. I then switched to Photoshop for colour adjustments related to the lighting setup in 3ds Max, and applied some photomanipulation over the ZBrush textures.



07 Object Export from ZBrush has many polygon counts. The Optimize modifier is useful for decreasing the amount of memory used; it will also reduce most delays in your Viewport. You can choose two options: Render detail and Viewport detail level. I set Render detail to 0.

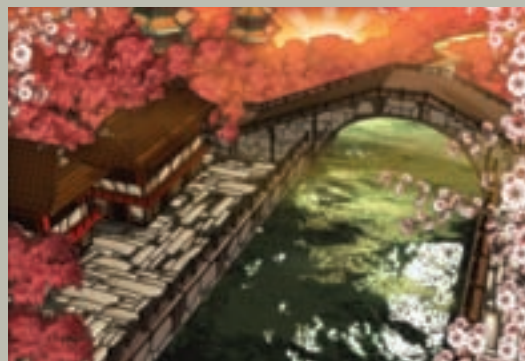
Artist Showcase

Zaw Ye Myint

I have been teaching myself 3D art for around four years now. I have learnt only from online tutorials and computer graphic magazines like 3D Artist, because I live in Myanmar and my country does not have any university or colleges for Computer Graphics courses.

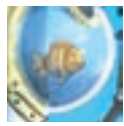


Harvest Place 3ds Max, ZBrush, Vue, Photoshop (2008)
I modelled the basics in 3ds Max, then used ZBrush for detail and textures. I used Vue for the trees, rendering in mental ray with two lights and a plane behind the camera for Final Gather. Photoshop was used for composition and colour correction.



Ferryman 3ds Max, Photoshop (2006)

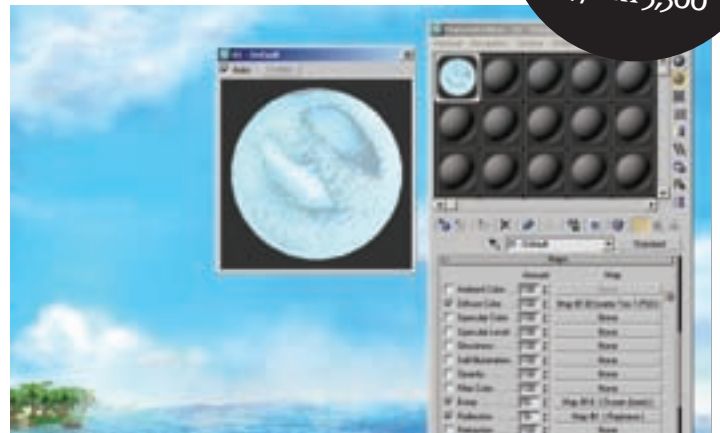
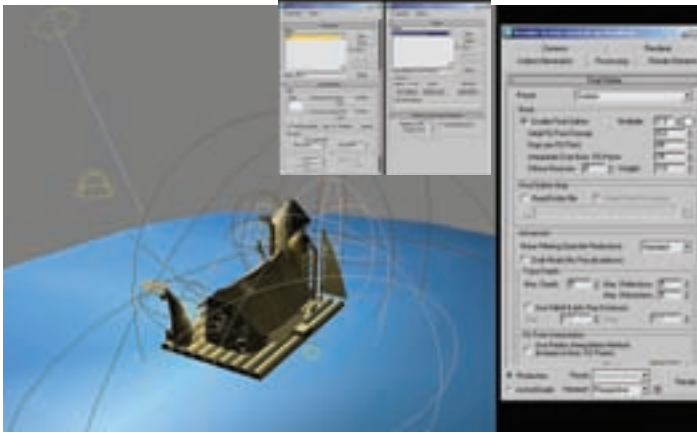
For this composition, I used Ink 'n Paint material in 3ds Max. The tree and the river were made using some of the filters in Photoshop. This image was created for a game project that was called Ferryman.



Lighting and rendering

Put the final touches in place

4hours
render time
Resolution:
2,721 X 3,300



08 I set up rendering by enabling Final Gather, then set Multiplier to 1.3 and FG Point Density to 5. By increasing the FG Point Density, I was increasing the darker shadows in ambient areas. For an extra effect, in the Environment panel I added Fog and adjusted Brightness and Contrast in the Effects panel.

09 Water is a major part of the image. I chose a new file and tested materials for the water effect. I used Ocean (lume) on a Bump map and Raytrace on a Reflection map. A sky bitmap texture was applied to the Environment map in Raytrace. At render time, I merged the water file with the house.

Rendering

When I rendered the final image, I didn't have enough memory. So I chose Crop Render Type in Area from the Render drop-down list, and rendered a small area at a time to save on memory. Many image pieces came out from the rendering and I positioned those in Photoshop. Before you sculpt in ZBrush, check your model UV for errors. If you forget to check your this, you may have to do extra work. You can use GUV or AUVtiles, but it is difficult to then edit again in Photoshop.



10 Next, I placed a strong Point light around the back as the main source of the composition's light, and I then used Far Attenuation for the Omni lights, positioning those Omni lights in the best place to get a good result. I wanted to lighten some of the dark areas, so I also added a Sky light.



11 The AO pass was made with only the Sky light turned on. For the AO render, I discarded all of the maps except the Bump maps. I then deleted all the lights and placed a new Sky light into the scene. I then turned on Final Gather



12 I made the entire underwater scene with Photoshop, which made the image look more like a waterscape scene. The sky was also painted in Photoshop with brushes, and I used a cloud photo overlay on the painting. I then applied some colour correction to the house, added a spike on the water and got my final result!

3DArtist Your questions answered?

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Hard surfaces

Lance Hitchings
www.hitchingsdesign.com



Lance is a guru on all things Maya-related. In this issue he explains how to create realistic glass object effects using Maya materials so that it reflects and retains the light correctly

Game design

John Hayes
<http://zugok.cgsociety.org/gallery/>



John works on characters for games at Sega in California, so there's not much he doesn't know about detailing low-poly models. This issue he's adding blood and scratches to weapons

Creating realistic glass



“How do I use mia_material_x to create realistic coloured glass that has richer, deeper colours where the glass is thicker, and paler colours where the glass is thin?”

Anthony Johnson New York, USA. Working in Maya



When creating coloured glass, simply assigning a colour to the glass shader usually doesn't create a realistic effect.

Although this will work fine if the glass is thin, like a windowpane, it doesn't work with thick, shaped glass, like a bottle, shot glass or figurine.

The problem has to do with the way light attenuates as it passes through coloured glass. When using a normal

shader, the light will receive attenuation (which is equal to the colour specified as the refraction colour) as it passes through each surface, whereas actual light is constantly attenuated as it passes through more and more glass.

01 Old-school coloured glass piggy banks

These are two renders showing the effects of normal shaders: a blinn on the left and

mia_material_x on the right. In both instances, the colour is set as a Refraction Color attribute. In the scene, the figurine on the left is a solid object, while the piggy bank on the right is hollow.

We're seeing two problems here **A**. Although the glass is of varying thicknesses, the colour is pretty consistent throughout. And the hollow space is actually darker than the rest of the glass, due to the light being attenuated four

Characters

Lee Davies

<http://leemale.cgsociety.org/>



Lee works as a graphics artist in Dublin and is an expert at creating funky figures. In his spare time he creates celebrity caricature pics and here he answers your character-based questions

Sci-fi

Daniel Lovas

<http://lovas.cgsociety.org/gallery/>



This month we welcome aboard Daniel who specialises in both CINEMA4D and sci-fi images. This issue he shows how to create an attractive atmosphere in CINEMA4D.

Send us your 3D glitches and we'll get them sorted. There are two methods to get in touch with our team of expert advisors...

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www.3dartistonline.com/forum



A



B

times as it passes through four surfaces. As a result, the hollow piggy bank has more light attenuation than the solid piggy bank, which is incorrect.

02 Physically correct attenuated light

The solution is to enable both the Use Max Distance and Use Color At Max Distance attributes of mia_material_x, found in the Advanced Refraction section.



C



D

The Refraction Color is set to white, while Color At Max Distance is set to the desired colour under Advanced Refraction. The Max Distance value is the distance (in world units) that the light must travel through the glass to receive attenuation equal to the Color At Max Distance **B**. The attenuation is exponential so that, at double the maximum distance, the attenuation is squared.

03 Now that's much better

The next two images are rendered using mia_material_x with Max Distance Color enabled. The important thing to remember is that a smaller maximum distance will produce a stronger, deeper colour. The image on the left has a Max Distance of 0.350, and the image on the right has a Max Distance of 0.100. Notice that the hollow space in the piggy bank receives no additional attenuation and that the solid



pig now has more light attenuation than its hollow companion **E**.

Because the attenuation is exponential, a much lighter blue was used than on the renders in the first step.

04 Adding shadows

Since we're dealing with glass objects, using caustics will produce the most realistic shadows, but that's a discussion for another time. To get fairly realistic shadows without using caustics, you must use mental ray's Segment shadows. This will take the light attenuation into account, whereas Simple shadows will not. Additionally, under Advanced Refraction, enable Transparent Shadow instead of Refractive Caustic **D**.

The image on the left-hand side is with Simple shadows, while the image on the right-hand side has Segment shadows applied to it.

Your questions answered?

Have a question about the software you use? Thwarted by creative block? Contact us and we'll help you get back in your 3D groove



Dripping blood

“I’m modelling some weapons for a heroic fantasy figure, but how can I get some bloody smears on them?”

Jurgen Koch Munich, Germany



The first place to start is to look up some good photo references and inspiration, such as *Conan the Barbarian* or *Lord of the Rings*.

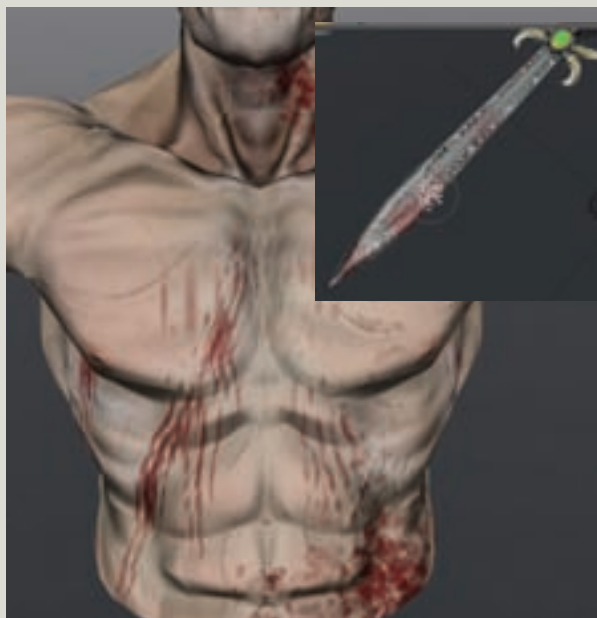
Rings. Next, select a few shaped brushes or alphas to really break up the patterns. Start with the most intense red colours you can find and layer them on to produce different intensities. Working towards a darker colour adds variety, while hints of brown and yellow ages some of the blood. Avoid using Smudge or brushes that are soft, as your efforts might make it look more like red paint.

You should also consider adding damage and cuts to the blades to help re-enforce the look of a fresh battle. Make sure to keep it fairly random, but always at angles. Adding more blood in crevices and near the handle can help show the direction of action or gravity. Also, if you have the blood cover up the edge, that will make the weapon appear less sharp, a better look on axes and hammers than on knives and swords. If you paint the blood on a separate layer, then having it add a bit of depth via a slight bump will help thicken the blood a bit; however, keep it subtle.



01 Use shaped brushes

I prefer to use two types of brushes: the first is a one-bit blobby brush and the other is three-slash brush that I got from a ZBrush alpha tool. I prefer to use 3D painting software, in this case modo, as it is easier to get a good flow to the blood and damage.



02 Paint in layers

Apply the bloody stuff first in thin layers. The bright red colour will get darker as the layers are applied. Also, use the Eraser with the same alpha to break up the shapes so it does not have a recognisable repeating pattern. After the blob shape, paint in the blood drips, again using an Eraser with the same alpha to break up the shapes. Avoid using smear or brushes that are too soft.



03 Not just diffuse!

The blood and damage will affect the Specular map and possibly the surface's Bump or Normal maps. If you paint the blood and damage on a separate layer, that same data can then be easily transferred to the other layers. Specular will darken on metal and be lighter on other materials. Also, adding the data into a Bump or Normal map will add some thickness to the blood.

Funky neon

“I’ve got some funky cartoon vehicles and want to create neon lighting coming out from various parts. What’s the best way to do this using Maya?”

Mark Miller Denver, Colorado



Glow effects in Maya can be used to achieve lots of different looks, from fluorescent signs to accentuating details in all

manner of designs: robots, futuristic vehicles or just about anything else. They are also a great way of replicating the effect of an actual light source pointed towards a camera (by default, lights themselves will not be visible in a render, as they only emit light to illuminate an object or scene and will not reproduce the sort of glare that the human eye sees when staring at a bright light).

Setting up a material with glow

The Glow attribute is controlled via a material shader node, rather than via a scene light. Setting up a such a material is actually very straightforward. First of all, apply a material to the object in question (a default Lambert or blinn is often perfectly adequate for this purpose), then assign whatever (diffuse) colour is required for the object to be (usually something light, or fully saturated). Find the Special Effects tab in the Attribute Editor for the material and check the Glow box. For detailing small areas of a large object, the glow’s intensity can be controlled with a greyscale texture map.

One useful feature of this attribute allows the object to which the glow is applied to be hidden (via the Hide Source option), so that only the glow is visible when rendered and not the associated geometry.

Incandescence

For particularly bright objects, the Incandescence attribute can make an object emit light (although not produce the same soft glowing edge as the glow). However, by combining both the Incandescence and Glow attributes, a shader can replicate lots of useful and interesting effects.

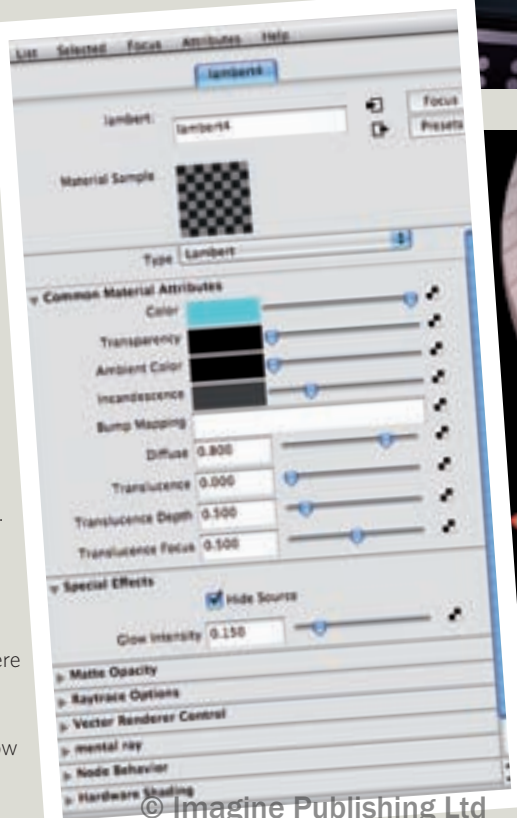
Several variations of this technique were used in the creation of *Short Circuit*. Headlamps were created by assigning a shader with high Incandescence and Glow to simple lamp geometry and placed

behind glass covers. The resulting light both reflected from the chrome backplates and refracted through the Bump-mapped glass material of the covers produces a reasonable approximation of real vehicle headlights, while the glow reproduces the actual glare effect.

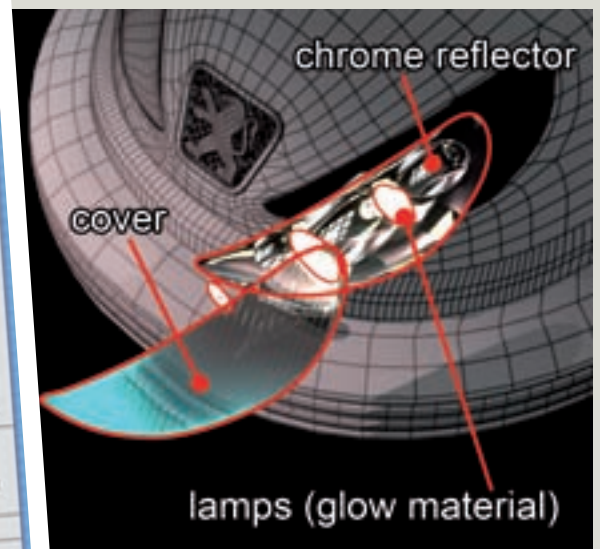
To create the fluorescent neon strips beneath the bumper cars in this scene, a shader with Glow was applied to a separate plane, which was placed just below the cars.

Issues

Because this technique ‘bakes’ the effect into the final render (meaning it cannot be easily removed once applied), it is good practice to create renders both with and without the glow visible. These images can then be imported as composite layers in postproduction and adjusted in any number of ways to allow greater control over the desired effect. Using a low-opacity, ‘highlight range’ Dodge brush in Photoshop can be a good way to increase the intensity of a glow.



Short Circuit – Lee Davies
A caricature of those mental electro-funk popsters, Daft Punk



The Glow Intensity slider can be found under Special Effects in the Attribute Editor

A simple but effective headlamp, featuring lights with an Incandescent/Glow material applied

Lighting a sci-fi planetary scene

“How do I create lighting and generally light a sci-fi scene that uses background planets and stars and foreground light sources?”

Hannah Carlisle Manchester, UK



Sci-fi scenes are often too complex to be created in a single pass. Even if on a 64-bit configuration, you should

consider creating the scene by putting together prerendered planes with ‘baked’ objects at various distances from the camera and starting with the most distant objects. In case of an exterior scene, the first (the most distant) plane would contain skies with various planets, suns and distant stars and sometimes clouds.

The first rule to create convincing lighting of such a composited scene is having a consistent position of direct light sources, usually a sun (or suns), but this alone is not enough. Various sky objects are supposed to cast some direct or reflected light on the scene as well, and

there is often refracted skylight, and sometimes even the light, reflected off the clouds. Even though the sky objects are baked to the background plane, you can still get them to cast convincing lighting at 3D objects between them and the camera. There are various ways to achieve that, some of them involving the creation of high-res HDRI panoramic textures that can cast diffuse lighting, etc.

We'll describe one of them that is rather simple to set up, regardless of the 3D software used. It's based on Area lights and its main advantage compared to the HDRI method, besides simplicity and better control (especially over shadows), is that it works even without GI calculation so the rendering times can be cut significantly short.



01 Prepare the background

Position your Sun light(s) and background objects on the scene. Render a test or two and adjust the lighting so that there are no burnt-in areas. Once satisfied with the appearance and especially with the contrast, render the final resolution (as large as the final image is going to be – 3,000px diagonally should be enough, even for large prints).



02 Extract light data from the background image

Open your background image in a raster program and use a colour picker to get the RGB values of the lightest parts of the image (lit planet surfaces, lit clouds, the lightest area of the sky, etc). Most, but not all, of them will read high values or will be pure white. If the value changes across the surface, take the middle or the most dominant value. Write them down in a text file for further reference.

Join the community at www.3dartistonline.com

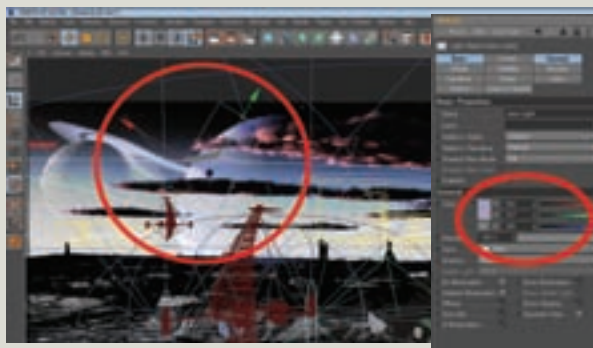


The Alien Derelict - Daniel Lovas, features a ship that has crashed landed on a strange planet.



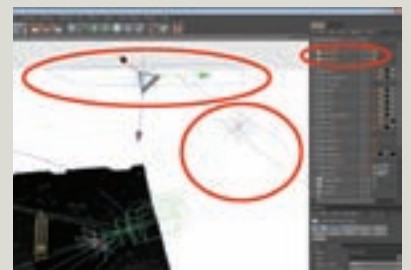
03 Add foreground objects and the background image

Remove everything from the scene except for the main Sun light(s). It is important not to change the lighting setup in this phase and also to keep the camera parameters. Now add the foreground objects to the scene. The background image can be added later in postproduction, or the 3D software may have a background image option.



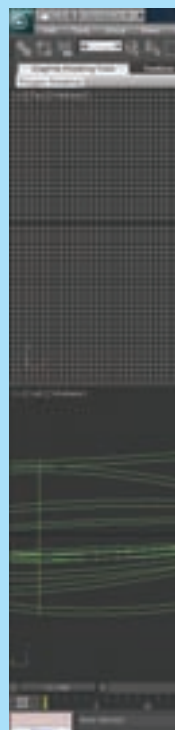
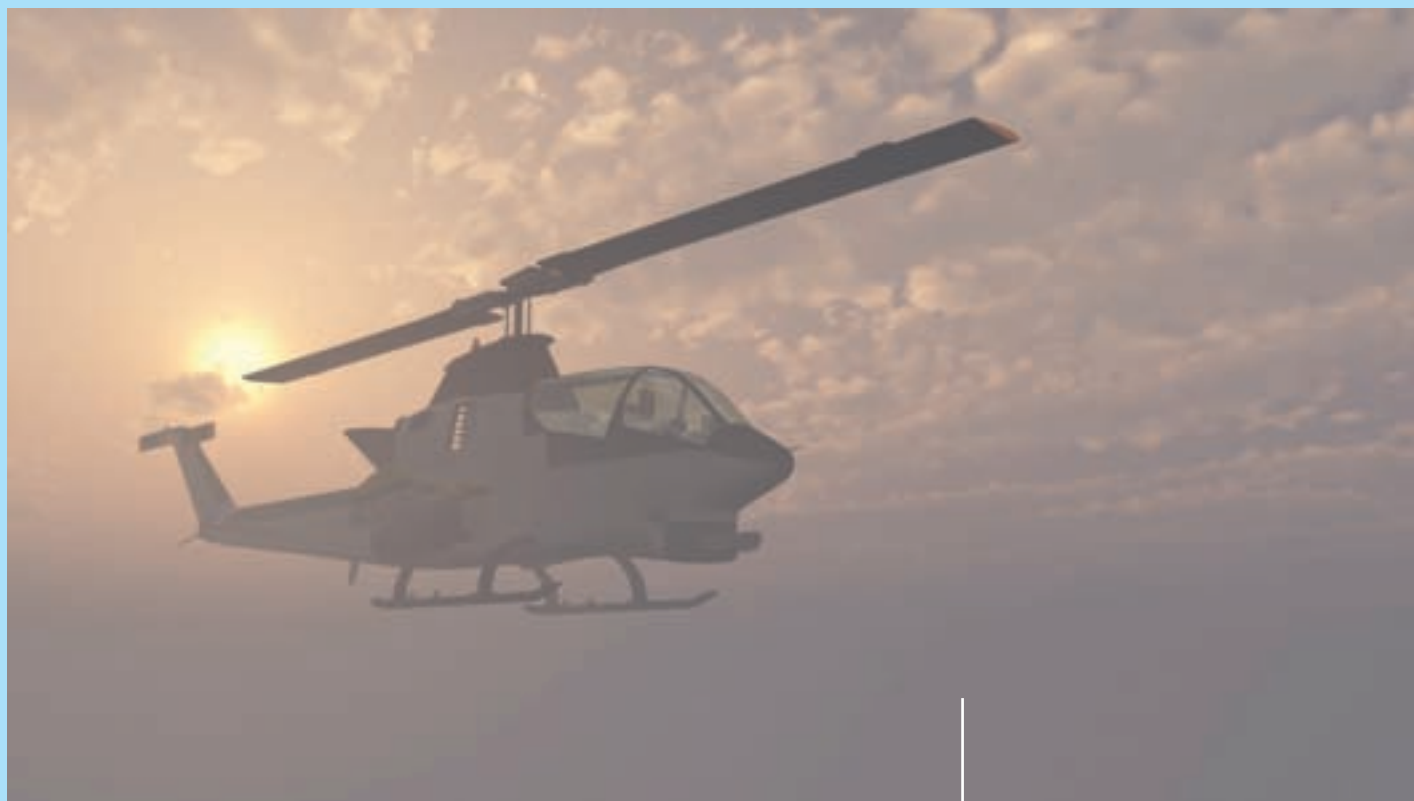
04 Add and adjust the Area lights

Here, the choice of compositing method doesn't matter too much. What's important is to have a reference background picture in your camera viewport. Add the Area lights now, as many as are needed. They should be in front of the distant matte (if used) and facing the camera. Position and deform them in the camera viewport so that they approximately cover the lightest areas of the background. Change their colours and intensities according to the data gained in the second step.



05 Add and adjust environment lights (Sky lights)

Do some test renderings now and fine-tune the Area lights and their shadow parameters. Once satisfied, add a couple of huge Area lights above and slightly behind the camera to simulate the skylight. Again, use the parameters from the second step and keep the intensities minimal. Finally, add a couple of properly coloured, low Area lights in a similar manner to simulate the light reflected off the ground.



This render was created directly from a preset atmosphere – it took about one minute to set up from loading in the model

Ozone 4 \$295

Wouldn't it be great if there weren't any worries about greenhouse gases and the like? Well, there aren't any in Ozone's world

Creating great-looking landscapes with a specialised program like Vue is one thing. However, the program is no match for 3ds Max or Maya when it comes to general 3D like animation, texturing or composing a scene.

Ozone is basically the atmospherics portion of Vue but implemented within your 3D application. It's a few simple controls that allow you to add lighting, clouds, haze and all

Vue's atmospheric rendering tools to any scene you like.

The biggest advantage of this above, say, compositing your images later is that you can use all your carefully constructed materials and expect the lighting to integrate flawlessly with the rest of your scene.

Ozone adds a menu item to your 3D application from which you can access render settings and import and export atmospheres. The menu also allows you to open the Atmosphere editor. This looks exactly as it does in Vue – a tabbed selection of controls for clouds, haze and fog, lighting and special effects. Each tab offers a comprehensive set of controls that depend on which of the four different atmospheric models is selected.

If that sounds a bit complicated, you can use any one of about 100 preset atmospheres as a starting point, and you can also save your own atmospheres into the preset library, so your own scene can be set up in a few clicks.

These presets are very strong and represent a whole wealth of different

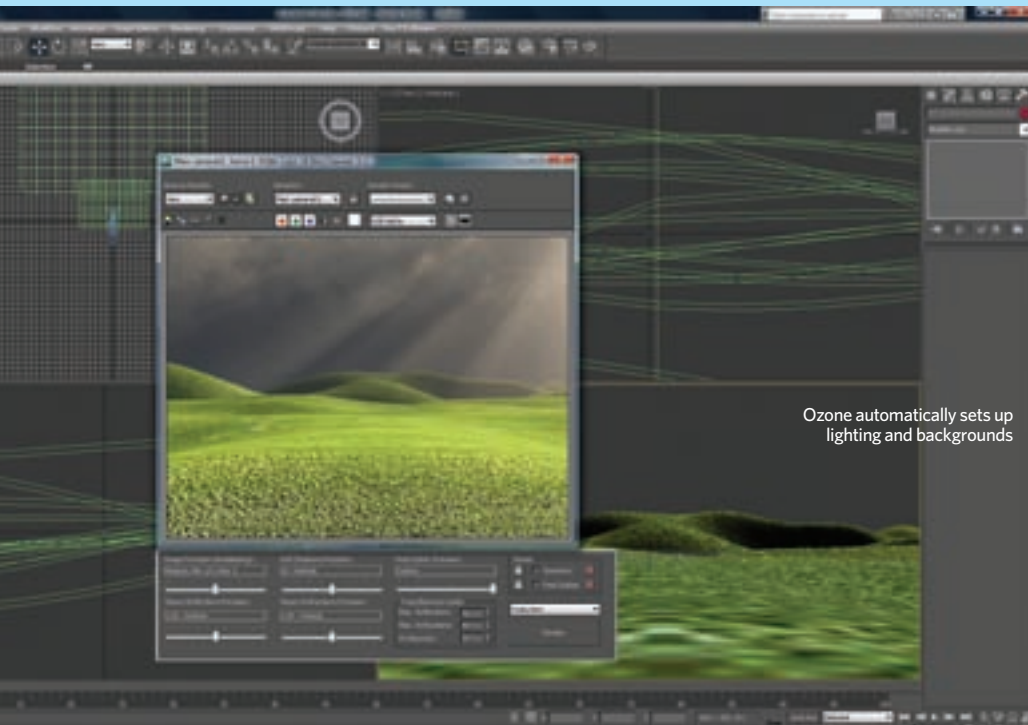
atmospheric and sunlight effects (they will be pretty familiar if you have ever played around with Vue), and you can buy in more relatively cheaply if you want to. In fact, most users will probably simply tweak these to create their own scenes rather than starting completely from scratch. This is a shame because the Atmosphere editor, when you get to grips with it, is powerful and flexible. The manual doesn't really do it justice at all.

Ozone is not just a tool for giving your renders realistic backgrounds. With Ozone, the atmosphere becomes part of your render, casting shadows, diffusing the renders, creating fog, lighting effects and rainbows. It's great at creating an instant lifelike 'outdoors' feeling to your images, and you often don't need to do much to tweak the lighting for most scenes. However, when you do, your lighting can affect the clouds if you want it to, as well as everything else in your shot.

In fact, Ozone is probably the closest thing you can get to a real-life location shoot. It encourages you to use and

Building your own atmospheres looks daunting, but it's not really that tough





Ozone automatically sets up lighting and backgrounds

“Ozone is easy to add to your scene – you can do it in a couple of clicks”

augment rather than artificially construct the lighting in your shot.

New in Version 4 is Vue's new spectral model for physically accurate skies. This brings the number of different ways Ozone can simulate atmospheres to four:

The standard model is quick to set up, easy to use and fast to render. The environment mapping model creates realistic lighting based on HDR images. The volumetric model is a bit more complicated; instead of setting the colour of the sky directly, it's derived from more physical features, like the position of the sun and the amount of the fog and haze. The spectral model is far more involved, allowing you to set up the composition of the atmosphere and other details, and produce subtle lighting effects that remain true to the weather

conditions, time of day and atmosphere. Spectral clouds aren't just noise-generated on the backdrop – they're solid 3D objects that you can move over, around and through, and light like any other object in your scene.

Ozone is easy to add to your scene – you can do it in a couple of clicks. It's also easy to adapt and learn. It presents a few challenges in terms of scale because it works in a landscape-sized world, but these are pretty easily overcome.

If you have the budget, you might want to consider going the whole hog and getting Vue xStream (in our Review Roundup pages this issue), which contains all Ozone's features as well as the ability to import whole Vue scenes, but if you're regularly creating external scenes, it's quick, easy and produces beautiful results.



Roam free
The spectral cloud model lets you move among the clouds

The good & the bad

- ✓ Use Vue atmospheres within your 3D application
- ✓ Built-in animation
- ✓ Good range of presets
- ✗ Manual not great
- ✗ There's no object-by-object control over cloud placement

Essential info

www.e-onsoftware.com
• \$295 US

OPERATING SYSTEMS

- Mac OS X v10.4
- Windows XP/XP 64 or Vista

OPTIMAL SYSTEM REQUIREMENTS (MAC)

- 2GHz PowerPC or Intel processor or faster
- 1GB of free RAM (2GB recommended)
- LightWave, 3ds Max, Maya, CINEMA 4D or Softimage

OPTIMAL SYSTEM REQUIREMENTS (PC)

- 2GHz Pentium IV processor or better
- 1GB of free RAM (2GB recommended)
- LightWave, 3ds Max, Maya, CINEMA 4D or Softimage



There's a good range of instant presets and you can buy more if you want to

Our verdict

Features 7/10
Ease of use 8/10
Quality of results 9/10
Value for money 7/10

“Saves time and delivers on quality”

Final Score 8/10

A figure exported from QUIDAM to 3ds Max, in yellow (as it imports) and in purple (after some fine-tuning of materials)



QUIDAM 3 £126.66

Instantly build your own 3D people without spending ages modelling them

QUIDAM is about making people – quickly modelling and posing custom characters that you can then import into your favourite 3D application to compose and animate. Poser is an obvious competitor in that game, so the question is what has QUIDAM got that Poser hasn't?

Straight out of the box, QUIDAM is easy to use and comes with a selection of characters ready to adapt. To keep the interface simple, the package divides into different 'studios': the Proportion Studio allows you to adjust the character's overall

size and weight; the Combination Studio gives you control over its features; the Sculpture Studio lets you work on its individual vertices; and the Pose, Texture and Render Studios all help you to complete your model and then fit it into a scene.

QUIDAM's greatest asset is the ease with which you can customise characters. In the Combination Studio, all you need to do is click on the nose and you'll be presented with a selection of different nose shapes to choose from. It's a bit like creating a character on the Wii – only these models are realistic.

If you want to get even fussier, you can switch to the Sculpture Studio and use ZBrush-style moulding tools to pull your character's features around in an intuitive and interactive way. What's more, unlike Poser's Face Room, you can use these same tools on any 3D mesh you import.

This works brilliantly when you use imported photos as a basis for your modelling, and once you have created your character, you can then switch to the Texture Studio to paint the skin directly from your reference photos. The end result – if you are skilful enough, obviously – is a pretty good three-dimensional version of your personalised model.

Version 3 introduces a new cataloguing system, allowing you to organise and import props, scenery and textures to be used in your work.

The texture painting tools have been completely rewritten, while new tiling tools allow you to paint patterned textures much more easily than before. There are also a couple of new tools for creating and fine-tuning UV co-ordinates.

Strangely, hair is still quite poorly represented (it is all done with Transparency

“Version 3 introduces a new cataloguing system that lets you organise and import props, scenery and textures”

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The good & the bad

- ✓ Easy to pick up
- ✓ Low cost
- ✓ Creates distinctive characters quickly
- ✓ Well organised
- ✗ Poor quality hair
- ✗ Renderer not great

Essential info

www.n-sided.com

• £126.66

OPERATING SYSTEMS

- Mac OS X v10.4
- Windows 98 OS/2, Windows 2000, Windows XP or Windows Vista

OPTIMAL SYSTEM REQUIREMENTS (MAC)

- Mac OS X 10.4 or later Processor PowerPC G4 (G5 recommended)
- 500MHz or more (1GHz recommended)
- 512MB RAM (1GB recommended)

OPTIMAL SYSTEM REQUIREMENTS (PC)

- Windows 98 OS/2, Windows 2000, Windows XP or Windows or Intel 512MB RAM (1GB recommended)

Changing the face is just a matter of clicking on a feature and choosing a different shape option

“ It scores over Poser in its ability to easily give characters a unique look ”



Introduction

You can choose from a selection of characters before you begin customising



Catalogue

The new catalogue system allows you to bring in and save props, poses and a range of other elements



Texture

You can paint textures onto characters directly from reference photos

maps), and since most 3D applications today can comfortably handle strand-based hair geometry, this is a bit of a throwback to the days of less-capable programs.

The characters in QUIDAM are well designed with optimisation and control firmly in mind. They're not overly high resolution so you should be able to rig them without too much trouble, and a crowd will not overburden most systems. However, once subdivided they stand up pretty well, even in close-ups.

The rendering provided with the package is pretty poor, though, and you won't want to use it for anything but test renders, so being able to take your characters efficiently from QUIDAM to your 3D app without too much messing about is absolutely vital. OBJ output is provided and works well, so when you

export a character it comes into your 3D package with materials and textures in place along with smoothing and everything else you'd expect.

However, you can also invest in an importer plug-in for your chosen 3D application (at around £60), which will let you import characters that have already been rigged.

All in all, QUIDAM does allow you to create detailed and realistic characters quickly. It scores over Poser in its ability to easily give characters a unique look and to make the fine adjustments necessary to create accurate representations of real people. It's also much more responsive. However, it doesn't have the clothing, hair or rendering tools of Poser, so it's not as much of an all-rounder.

Our verdict

- Features 7/10
- Ease of use 8/10
- Quality of results 8/10
- Value for money 8/10

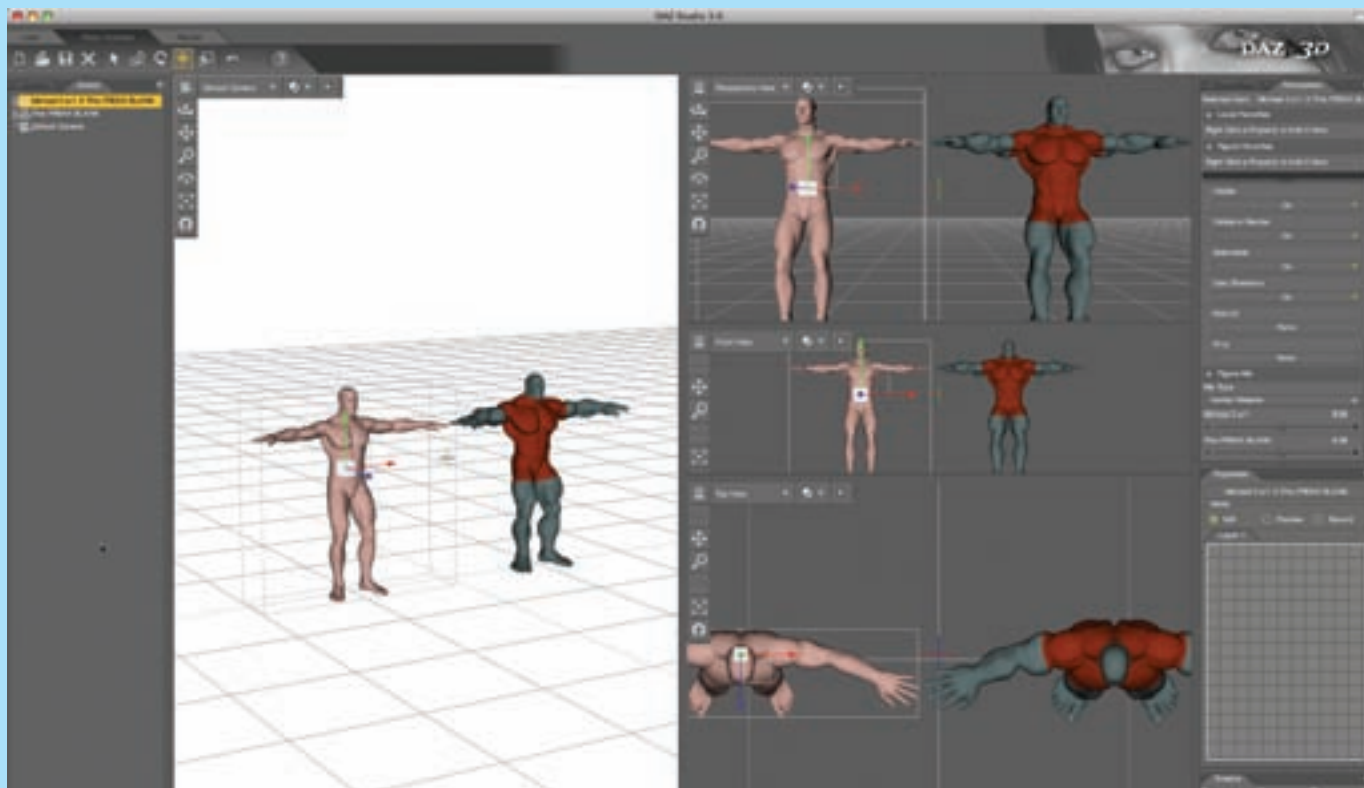
“ Lacking certain simulation tools, but has great character modelling tools ”

Final Score **8**/10

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DAZ Studio 3's Render Album and Render Editor allows users to select, blend and modify final output for recent renders



DAZ 3D Studio 3 free

DAZ Studio is a free, feature-rich 3D figure design and 3D animation tool that enables anyone to create impressive digital imagery

Insanely easy figure animation is made possible by Puppeteer. Later, you can export in Collada to your favourite 3D application

DAZ Studio 3 is a bit of an enigma in the world of 3D. It's free, easy to use, it does a very good job of animating and rendering and there is ample free content to begin using with it. In the costly world of CG, having a capable application that doesn't cost anything usually elicits a raised eyebrow and a "What's the catch?" response from potential users. There is no catch. To understand the DAZ business

model and way of thinking, read our article in issue 4 on DAZ 3D entitled 'Enter the Digital Art Zone'.

The program itself is a rendering and animation package for predefined characters and scenes. There is no modelling, though usually aspects of the characters and assets can all be tweaked down to minute detail. Studio breaks down the process into scene creation, posing, shaping, animation, materials and rendering. There's also a section on scripting as well. It is in effect, a free alternative to Poser, and has a massive community of users providing free and paid-for content.

We're focusing on the free DAZ Studio 3 version only, however, also available is DAZ Studio 3 Advanced at \$149 which includes some additional lighting models as well as shader/texture-authoring capabilities.

So, what's new in version 3 and why should you care?

First of all, if you work with other programs that support the Collada file format, DAZ Studio 3 now provides a seamless way to generate figure animation and then import it into the 3D package of your choice. Animation of figures is made extremely simple in DAZ Studio 3 thanks to the Puppeteer capability, which is very similar to morph blending tools of other 3D packages. Essentially, users can 'record' multiple poses on a 2D grid by adding dots, using the dot to record a pose and then animate between them by dragging a cursor from pose dots on the grid or anywhere between for blended poses. Very fast and very easy to do - in fact, very fun. It's also an expeditious way to create walk cycles. After creating an animation sequence, users simply need to export in the Collada format. Tests here of the imported DAE files into CINEMA 4D R11 and Vue xStream revealed that the animated files came in perfectly



“ It's easy to use and there is ample free content to begin using with it ”

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DAZ Studio 3 boasts improved rendering, Collada export and a host of other enhancements, making working with characters easy

The good & the bad

- ✓ It's free
- ✓ Animation of complex people and animal figures is very easy
- ✓ Final rendering is clean and good
- ✓ Puppeteer is an awesome way to blend poses into your animations
- ✓ Collada export of animations and stills is very handy
- ✗ Keyframing, while doable, is problematic since you can't actually see the keyframes themselves
- ✗ Adjusting individual keys is not an option
- ✗ OpenGL display is fine but has annoying quirks and artefacts when working on files or moving the cursor around
- ✗ Texture editing is limited

Essential info

www.daz3s.com

• \$149 US

OPERATING SYSTEMS

- Mac OS X v10.4
- Windows XP/XP 64 or Vista

OPTIMAL SYSTEM REQUIREMENTS (MAC)

- 1.8GHz PowerPC or Intel processor or faster
- 1GB of free RAM (2GB recommended)
- 500Mb recommended HD space
- OpenGL 2.2+ graphics card with 256Mb

OPTIMAL SYSTEM REQUIREMENTS (PC)

- 2GHz Pentium dual core or better
- 1GB of free RAM (3GB recommended)
- 500Mb recommended HD space
- OpenGL 2.2+ graphics card with 256Mb



with textures and morphs intact, while no additional plug-ins were required.

Next, a handy little feature that opens up worlds of possibilities is the new Figure Mixer. This allows users to blend different shapes and figures together to form new characters and then save them into their scene. Does the standard Michael 3 look too much like a desk worker? Blend him together with the steroid-enhanced Freak to add muscle bulk and tone.

Next, for those users that need to render from within DAZ Studio 3, the 3Delight render engine has received improved performance and memory management. Animating human and animal characters with high-resolution texture maps is a

memory-intensive operation. The render speed increase is significant although we didn't do time trials between DAZ Studio 2 and DAZ Studio 3. It is not faster than some of the programs you may import the Collada files into. In sample scene setups, DAZ Studio 3 was able to easily handle multiple human and animal figures with high-res texture maps without any slowdown.

Finally, for users that are uncomfortable with animating human figures, a stripped-down version of aniMate is included that allows for drag-and-drop simplicity of pre-animated blocks into your scene for specific characters. This capability is essentially nonlinear animation, as the blocks can be overlapped and moved about the timeline.

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Our verdict

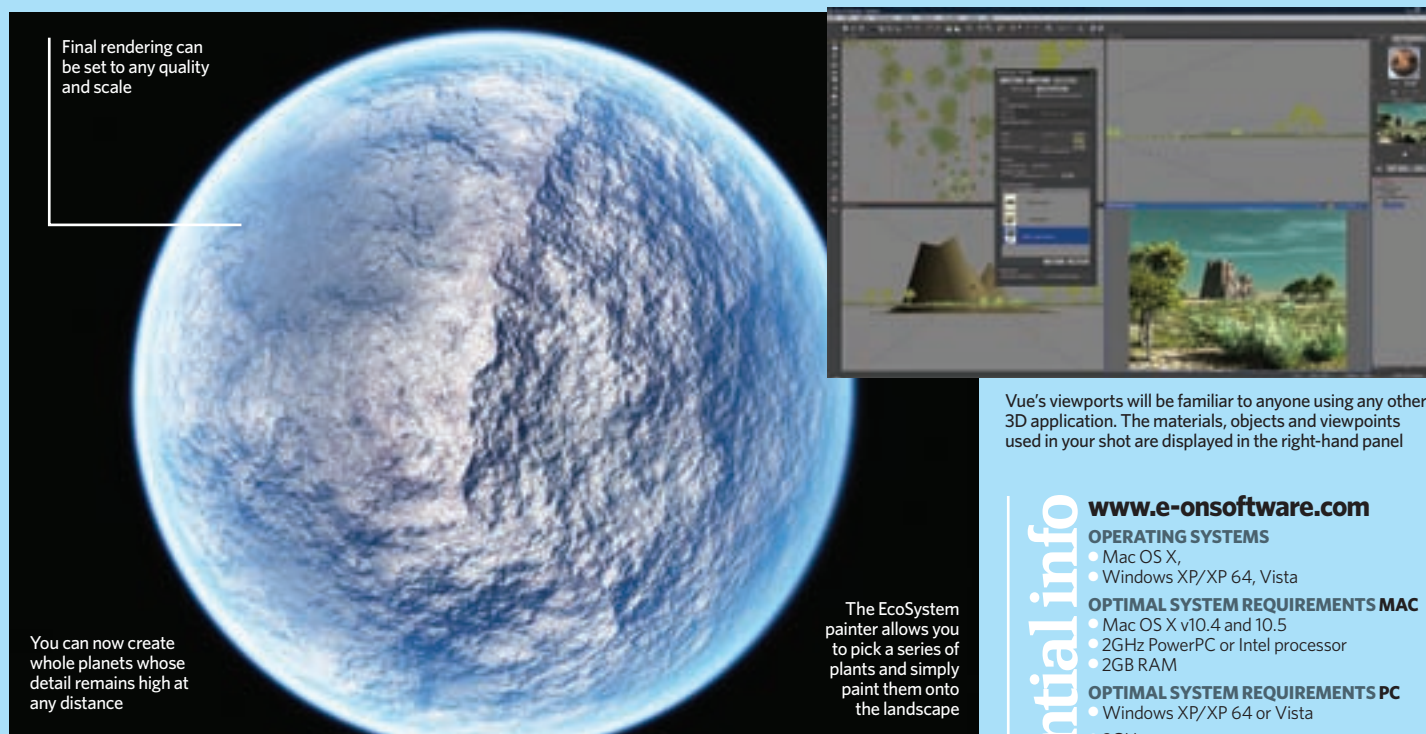
Features 8/10
Ease of use 8/10
Quality of results 9/10
Value for money 10/10

“ Free, fast, fun and flexible – fab! ”

Final Score **9**/10

Vue 7.5 xStream \$1,495

The latest version of the industry-respected landscape creation tool lets you work on your Vue designs in whichever 3D application you're most comfortable in



Vue is widely recognised as the industry standard in landscape creation tools. Its intuitive workflow and high-quality rendering, along with the fact that you can scale the application depending on whether you're a freelance artist or a major animation studio with dozens of rendering machines, has meant it has gained respect right across the board.

But demands are getting greater. Where before a desert landscape was impressive, today a landscaper needs to model every leaf on every tree and have them blowing realistically in the wind while soft shadows filter through their branches.

Vue comes in several versions. The two full-featured ones are Vue Infinite, the standalone package, and Vue xStream, which includes tools to let you use your Vue designs directly inside your 3D application of choice. If your budget doesn't stretch to these, there are the Vue Esprit and Pro Studio versions, and even a free taster version working mainly on presets.

The package is surprisingly easy to get into. Everything has presets and everything has simply laid out, well-organised dialogues. Terrains are created by simply painting and then clicking to add effects. Materials can either be chosen from an extensive library or developed for yourself.

Atmospheres can be loaded in at a click, but if you want greater control then sliders let you define and place clouds, move the sun and change the quality of the air.

Recent updates have centred around lighting and plant life. Now the package includes global illumination, radiosity and volumetric atmospheres that create their own complex lighting without the user having to worry too much about what they mean. Vegetation is now handled by the EcoSystem painter, which allows you to simply paint in grass, trees, rocks or buildings without worrying about the hundreds of thousands of polygons you're adding to your scene.

The big news for Vue 7.5 is complete planets. You can now create procedural spherical terrains; in other words, complete worlds that look as good close-up as they do from space. You can fly in from orbit to ground level and out again and still have your planet look realistic.

Aside from this, 7.5 also introduces camera mapping (allowing you to render complex parts of your scene just once, and then project the rendered version onto simpler geometry for an animation). There's also a new tool allowing ecosystems (plants, trees, etc) to change over time, as well as compatibility with V-Ray for the renderer.

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Essential info

www.e-onsoftware.com

OPERATING SYSTEMS

- Mac OS X,
- Windows XP/XP 64, Vista

OPTIMAL SYSTEM REQUIREMENTS MAC

- Mac OS X v10.4 and 10.5
- 2GHz PowerPC or Intel processor
- 2GB RAM

OPTIMAL SYSTEM REQUIREMENTS PC

- Windows XP/XP 64 or Vista
- 2GHz processor
- 2GB RAM

“Sliders let you define and place clouds, move the sun and change the quality of the air”

Our verdict

Features 8/10
Ease of use 9/10
Quality of results 9/10
Value for money 8/10

“A strong update and a powerful, easy-to-use and scalable product”

Final Score **9**/10

EIAS 8 \$895

Teaching an old dog new tricks

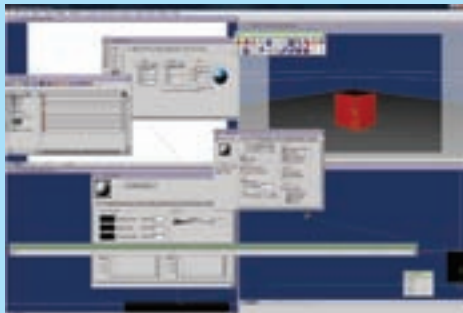
Electric Image Animation System is one of the veterans of the 3D world. It's an animator and renderer – strangely lacking any modelling tools – and usually fits into larger studios where it's unbeatable at working with very large files without falling over. The package is also well known for giving a high level of fine control over every aspect of your animations.

The fact that it works smoothly on Mac and PC (you can even network render between platforms) also makes it attractive to the Mac community.

The EIAS workflow isn't instantly friendly, and although the interface is initially quite clean, you quickly end up opening a whole range of undocked windows that are filled with tiny controls, so you can easily end up losing things if you don't keep a tidy desktop.

Version 7 was a big update, adding improved global illumination, a new hard-body dynamics system, better shader and plug-in interfaces and multi-pass rendering.

Version 8 builds on this with a completely rewritten lighting system with light graphs (so that you can control the fall-off and exposure of a light very easily), faster soft shadows, area lights and light-emitting objects. HDR images are now supported throughout the application.



EIAS has always been keen on its range of procedural shaders, and now there are even more of them. There's also a new parametric surfaces plug-in for creating a wide range of weird and wonderful shapes.

All in all, this update does include quite a lot, but the package still feels as though it's playing catch-up. Having said that, there's a level of detail in the EIAS tools that's hard to match, and the robust rendering of large, complex scenes will keep the package popular.



www.eitechnologygroup.com

Our verdict	Features	8/10
	Ease of use	7/10
	Quality of results	8/10
	Value for money	7/10

“For users working with huge scenes, but a pity it has no modeller”

Final Score **8/10**

SpeedTree \$495

Customise trees to your liking

SpeedTree is a plug-in for 3ds Max or Maya (we tested the version for the former) that allows you to quickly create procedural trees, shrubs and plants.

The library provided with SpeedTree contains a wide range of plants with a good selection of favourites covered. The English Oak, willow and pine are all there, as are the exotic (palm trees) and the mundane (patches of weeds and bushes), while you can buy more plants if you want to.

However, the system also comes with SpeedTreeCAD, a standalone, real-time tool for building your own trees and plants. SpeedTreeCAD has a lot of controls and you won't master it



overnight, but it's powerful and fun to use. Not only can you get instant feedback as you adjust the trunk thickness, number of leaves and textures of your plant, but you can also adjust its response to wind as you watch.

Since it's a procedural system, it will look slightly different each time you add a plant from the species you have created, so no two trees in a forest will be the same.

Now we come to one of SpeedTree's most instantly appealing features: wind. Simply turn it on and your plants will sway realistically in whatever breeze you set up (if you have ever tried doing that with 3ds Max's built-in tools, then you will quickly see the appeal).

Each SpeedTree plant can be imported either as a high-definition model – which will look great even close-up – or a real-time version, which is a lot easier to work with. A handy add-on is also provided for the 3ds Max version, which converts Max's standard shadow mapping to give proper shadows to opacity-mapped objects.

SpeedTree allows you to quickly create realistic trees at a range of detail levels

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www.digimation.com

Our verdict	Features	8/10
	Ease of use	8/10
	Quality of results	9/10
	Value for money	7/10

“SpeedTree allows the user to create some great-looking trees and incorporates a useful wind feature, too”

Final Score **8/10**



MOVIE IN THE MAKING
Find out how Christian Bale was transformed into resistance hero John Connor using set design, props, clothing and much more

The Art of Terminator Salvation £24.99

Check out the concept art behind the latest movie



The art of the Terminator franchise has evolved faster than the Moore's Law-powered androids of the title. The original

movie's special effects consisted of a very grumpy Arnie, a lot of petrol and a suitable amount of silver face paint. Move on to T2, and advances in 3D trickery see the T1000 pouring itself into a stream of meltingly molten shapes, while *Terminator 3* revisited the idea in female form.

From the Nineties onward, these big-budget movies made good use of the 3D technologies available to them at the time, and so the release of a book all about the latest movie's artistic background had us expecting all sorts of behind-the-scenes glimpses into beautifully rendered forms, motion-capture wizardry and circuit-breakingly

complex tech textures. What we got was a Corel Painter autopainting of the Arecibo radio telescope.

This collection of art from *Terminator Salvation* is, you see, a concept art portfolio. And while this is eminently useful for understanding how the art direction of this movie progressed, it's not going to teach you how to render your own Terminator. It is, essentially, eye candy. But who cares – at least it's not *The Sarah Connor Chronicles*.

In fact it's a bit more than that, although admittedly if you're not a fan of the Terminator franchise, you'll have trouble caring. For those 3D artists looking to go into art direction as opposed to the nuts and bolts of compositing and rendering, there are some great insights into storyboarding, environment and character design, and

crucially for the fourth iteration in a 20-year-old franchise, continuity.

On pages given over to the clothing designs for lead character John Connor (played by Christian Bale), there are some excellent asides about experimenting with a tiger-stripe pattern, because the then-teenaged John Connor in the franchise's second outing during the Nineties wore one.

What's important to remember is that this book straddles the thin line between a record of how the artists worked to create the look and feel of the movie, and a shiny, highly priced hardback spin-off from the film. In some places the artwork feels sloppy, which will disappoint art book buyers, but for those who know something about concept design it provides an excellent record of works in progress.

info
AUTHOR
● Tara Bennett
PRICE
● £24.99
PUBLISHER
● Titan Books
ISBN NUMBER
● 978-1-848560-82-6



EARLY IDEAS

This book gives you a glimpse into some of the earliest stages of creating concept artwork for a movie that is actually the fourth one in a series that started over 25 years ago



STORYBOARDS

Discover how the action in the movie was designed, from the set to special effects via the mood the actor should be conveying. The interesting point is to tie these concepts into how they were actually filmed



TECHNICAL DRAWING

A reminder that even the most CG-packed movies still require concept artists with good old-fashioned technical skills. While T4 uses lots of CGI it also still has physically-built Terminators that required accurate design



THAT'S CHEATING!

Some early concept artwork shows that corners were cut and quick cheats were employed to get concepts up and running. Such as this autopainting of a real radio telescope facility

Expose 7 £64

If finer digital art exists, Ballistic doesn't know about it



Here's another treat from Ballistic in the shape of *Expose 7*, the latest collection of the 'finest digital art in the known universe'. Some books from Ballistic Publishing do contain tutorials and valuable reference material, but others are simply coffee-table treats. *Expose 7* definitely is in this camp – the literary and artistic equivalent of a packet of really nice biscuits – so unless, like us, you spend your days hunting for the latest and greatest digital art, it's on the coffee-table that this one will stay.

The artwork on display is gorgeous. Everybody we've put this book in front of has spent at least 15 minutes cooing over its painted and rendered masterpieces. A new genre-based chapter, Steampunk, captures the current trend of the moment, while the Product Design and Rendered Portraits chapters showcase 3D separately from its Photoshop and Painter peers.

AUTHORS
• Daniel Wade and Paul Hellard
PRICE
• \$64
PUBLISHER
• Ballistic Publishing
ISBN NUMBER
• 978-1-921002-64-9

info

FINEST DIGITAL ART
Having separate chapters for 3D design and art enables it to be showcased across lavish, glossy double-page spreads



ABSTRACT DESIGN
The chapter-based approach allows the publisher to display 3D that's created as art rather than as a for-profit project



PRODUCTS
There are also plenty of jaw-droppingly realistic renders in the Product Design and Still Life category

Maya for Games

£26.99

It's Maya and it's for games!

The aim of this highly specific Maya book is to teach you about image-based modelling.

Like most idiots' guides to Maya, it starts by trying to debunk the interface in the same bland, boxy style of all Focal Press software books. But after that it takes on a far more vocational turn, and for those who want to take their 3D designs in the direction of game design, this is invaluable.

Tips about ways to organise your workflow 'because that's how it's done in development studios' might seem high-handed to those who don't work in the industry, but game development is just as set in its ways as any other industry, and newcomers would do well to remember and utilise its favourite working practices.

This book is aimed at a younger audience than some, with chapter titles riffing off of Nickelodeon cartoons, but this makes it more approachable.

AUTHOR
• Michael Ingrassia
PRICE
• £26.99
PUBLISHER
• Focal Press
ISBN NUMBER
• 978-0-240-81064-5

info



GAME-BASED PROJECTS
Tutorials focus on things that game designers want and need to create – weaponry, vehicles and environmental designs



OBLIGATORY INTERFACE GUIDE
Hang in there, and – trust us – one day you really will manage to get your head around the Maya graphical user interface. Honest...



HEAD SHOT!
You will also learn the basics of polygonal character modelling before moving on to that FPS essential – realistic hands

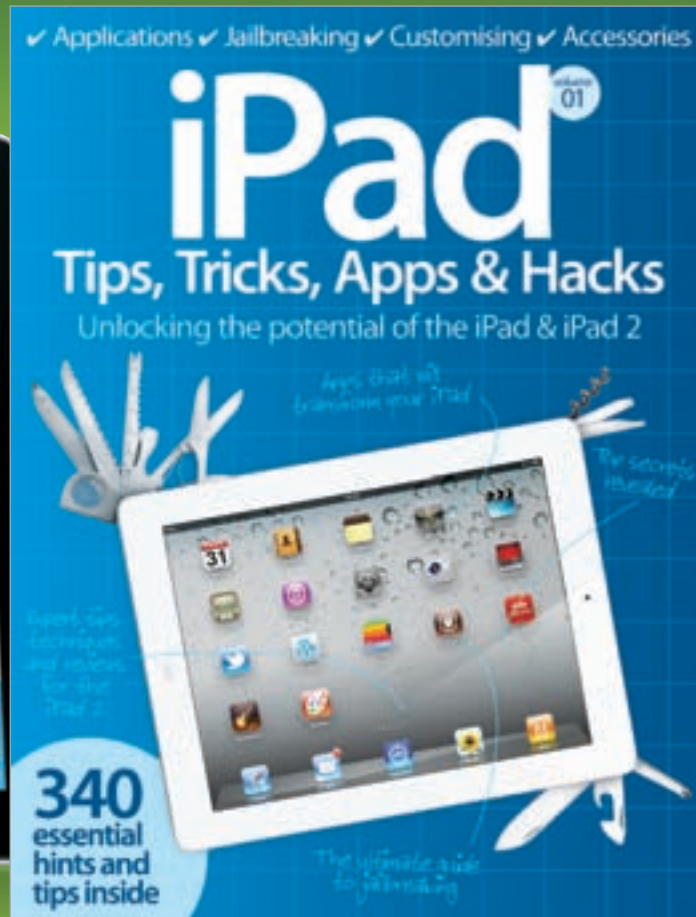
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workspace^{3D}

Inside guide to industry news, studios, expert opinion and education

Hammer's Slammers
Kurt Miller (client: Baen Books)
Personal portfolio site
www.kimistudio.com

102 Insider interview

Alessandro Baldasseroni

Each issue we talk to an industry pro on how they got to be where they are today. This issue, the senior character artist at Blur Studio gets a grilling

100 News

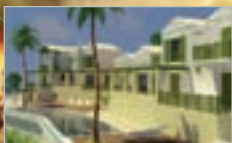
Industry news

All the software releases, updates, events and competition news from around the 3D world

Inside



104 Uni Focus



The University of Greenwich

Situated on the South Bank of the Thames, the University of Greenwich has a history stretching back long before it became a poly in 1970 and a university in 1992. Today, it offers the BA (Hons) 3D Digital Design and Animation course

Alessandro Baldasseroni, senior character artist at Blur Studio, on new talent in the industry. **Page 102**

“The difficulty is finding people with an overall experience of modelling, as most of them are specialists in only one software package”

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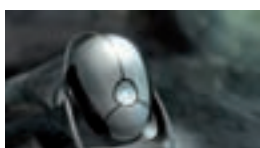
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SIGGRAPH 2009

The 36th year of the computer graphics and interactive techniques exhibition and conference



A cEvo teaser. Concept, production and animation: Vortice Studios. Agency: Fat-Man Collective. Client: DreamKraft, Inc. Sound: iamstudios

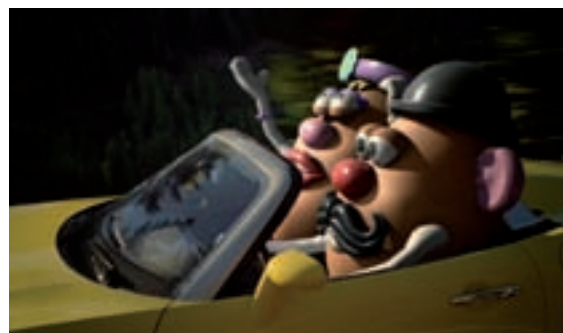
B EVOBEAT from Tokyo, Japan. Courtesy of Japan Electronics College/ACM SIGGRAPH 2009



SIGGRAPH 2009 is nearly here. Running from 3 August to 7 August, 20,000 computer graphics and interactive technology professionals are expected to converge on New Orleans, Louisiana, USA, for conferences and an exhibition at the Ernest N. Morial Convention Center. The conference will include in-depth looks at research, science, art, animation, music, gaming, interactivity, education and the web.

SIGGRAPH 2009 includes the popular three-day exhibition (from 4-6 August), which will show off the latest products and services from the computer graphics and interactive marketplaces. At the time of writing, more than 200 companies are expected to be exhibiting. These include industry heavyweights like Autodesk, Craft Animations and Pixar Animation Studios. A full list is on the website. Attracting a large international crowd, it's a great place to keep up with the latest developments.

Also part of SIGGRAPH 2009 is the Computer Animation Festival. Following on from a



successful expanded format last year, this year's festival will again be open to the public. The festival is a selection of juried and invited screenings to showcase recent advances in computer-generated imagery, including the results of its open call for submissions – such as Visual Music and Real-Time Rendering – as well as a series of presentations and panels. The Evening Theater will run as a highlight of the Computer Animation Festival, screening a selection of the films each night. A special reel will show the favourite films of Jury Chair, Miles Perkins from Industrial Light & Magic. The award winners for the Computer Animation Festival will be announced during the conference. For a list of nominees, take a trip to the website.

You can find out the latest SIGGRAPH 2009 happenings at www.siggraph.org/s2009. Also, keep an eye on www.3dartistonline.com for the news from the expo.

C 'Wild Dogs' from Sarasota, Florida. Courtesy of Ringling College of Art and Design/ACM SIGGRAPH 2009

D Bridgestone's 'Taters' from UK-based Framstore. Courtesy of Framstore/ACM SIGGRAPH 2009

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3D solutions company and film studio unite

Dassault Systèmes and EuropaCorp join forces



Dassault Systèmes, creator of 3D solutions, and EuropaCorp, a French international film studio, have announced that they are joining forces to bring experiential 3D to the domains of cinema and marketing, starting with the upcoming film *Arthur and the Revenge of Maltazard*.

The film is due to be released at Christmas time in 2009, benefiting from the development of several creative marketing tools, the first step of which is the creation of an online series of experiences based on the *Minimoys* universe.

Through the new partnership, the two companies hope to invent new interactive and 3D concepts, enabling viewers to participate in cinema content through online communities and new-media devices.

Luc Besson of EuropaCorp says of the partnership: "Artistically, EuropaCorp has chosen diversity and modernity in its films in order to

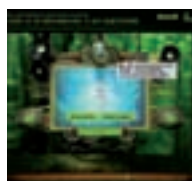
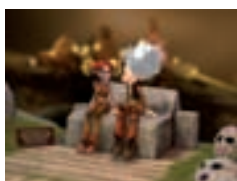


address the broadest audience possible. Cinema moves forward with technology and EuropaCorp wants to share these innovations with the audience. We are very happy to be able to work with Dassault Systèmes. Together, we will imagine new ways of expression and bring these to life. This will push the boundaries of entertainment throughout the entire life span of our films."

Bernard Charlès, the president and CEO of Dassault Systèmes, is also excited by the arrangement: "EuropaCorp is a strong, creative partner, constantly bringing together new talents and telling universal stories. We are looking forward to co-inventing new forms of narrative and emotional experiences, while taking full advantage of Dassault Systèmes' 3D technology."

To find out more information on both companies, pay a visit to www.europacorp-corporate.com and www.3ds.com.

“Through the new partnership, the two companies hope to invent new interactive and 3D concepts”



E *Arthur and the Revenge of Maltazard* will be the first film to benefit from the technological innovations



Dynamic architectural visualisation

From Cornwall-based arch-vis studio

A small studio in Cornwall, Sanders Shiers, is gaining a good reputation for its architectural visualisation projects. The technical work is rich with depth and vitality, according to co-founder Alan Sanders: "We want to take visualisation a stage further. While keeping a strict faith to the architect's own vision, we treat each image as if it were a film set... adding drama that brings each project to life." The studio has now built a solid identity, based on its use of dynamic camera angles and dramatic lighting. Sanders Shiers has taken on a lot of work for overseas architects, especially in Scandinavia. See www.sanders-shiers.co.uk for more information.



New Truebones website

Motion footage sales site revamped

Truebones.com has launched a new website, making it easier than ever to find top-quality motion clips that you can incorporate into your 3D projects. The new website design has a huge variety of high-quality motions in BVH format, as well as free motions and free animation software. There is a fast search-and-ordering system to help you get exactly what you need immediately through the integrated online store. For-sale motions can be previewed online before purchasing, which helps to make the buying decision easy. Join now at www.truebones.com to receive over 50 free BVH motions and a 50 per cent discount coupon code for the MonsterBones MegaMotions 2400 pack.

Industry insider Alessandro Baldasseroni

Senior character artist, Blur Studio

Each issue, **3D Artist** finds out how the top people in the 3D industry got their jobs and what you need to know to get a foot in the door



About the insider

Job Character artist

Education Diploma in Information Science

Company website
www.blur.com

Personal portfolio site
www.eklettica.com

Biography My name is Alessandro Baldasseroni, born and raised in Milan, Italy. Having completing a diploma in Information Science and after some years spent practising 3D on my own, I started to work in the CG industry almost eight years ago. I worked as a generalist in a small game-developing studio in Milan and after a while I had the chance to work as a freelancer for various gaming and cinematic studios. I'm currently employed as a senior character artist at Blur Studio, Venice, California

Over in Venice, California, but well out of the burning glare of the sun and away from the posturing of the body beautiful, is the office of **Blur Studio**. Deep inside the air-cooled workplace, Alessandro Baldasseroni is in charge of modelling, texturing and surfacing characters for Blur's game cinematics, commercials and every project that concerns high-res creatures and humans. It means a pretty tight schedule, which usually allows Baldasseroni and his team to complete a high-res character in less than 18 days. On a daily basis he checks the progression of his current model according to the schedule, and prepares it for the various technical and artistic deadlines.

3D Artist: What kind of course did you do at university, or what training have you done?

Alessandro Baldasseroni: I'm a self-taught artist, so the training I have done is just a lot of practice driven by a great passion for everything that concerns illustration and design. The medium of 3D is just a way to express that.

3DA: For today's generation of students, what is the educational grounding they should be looking to undertake to get a first job as a character artist?

AB: Dealing with characters requires a strong sense of form, volumes and obviously a good knowledge of anatomy. So I think that every art school that

provides a good teaching of figure drawing and sculpting is a good base.

3DA: What were you doing before you joined the company and how did you get the job with Blur?

AB: I was a generalist in a small games company in Milan, dealing with low-

polygon assets most of the time. In my spare time I cultivated my passion for character modelling and illustrations, trying to improve my skills piece by piece. After a while I received some international awards in various CG communities, CGSociety in particular, and had the chance to be published in various magazines and art books. This allowed me to get some popularity in the CG field. After that came various freelance requests from some international game-outsourcing studios, like Flagship Studios, Massive Black and Blur Studio. With Blur in particular, I freelanced for more than a year, and after that they asked me if I was interested in a staff position in the studio.

3DA: What software packages and tools do you use at Blur?

AB: I use 3ds Max and ZBrush for modelling, Photoshop for most of the texturing alongside ZBrush. The surfacing side of things and rendering is done in 3ds Max with mental ray.

A "This is a still from the short film, 'Code Guardian'. It was created with 3ds Max 5"



portfolio highlights

Alessandro has worked on a number of projects to date, including the ones on this recent timeline

2009 Halo Wars
2009 Terminator Salvation game
2009 Section 8
2009 X-Men Origins: Wolverine
2008 Warhammer Online
2008 Gun
2007 Hellgate: London
2007 Marvel: Ultimate Alliance
2003-7 'Code Guardian'

B "The most satisfying project I've worked on was a marketing poster for the game Gun, commissioned by Massive Black for Activision and Sony"

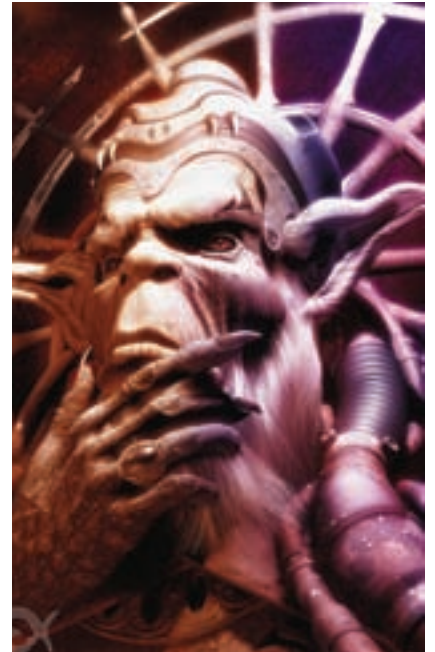




C "This is the Chaos Champion of Tzeentch from the Warhammer universe. I created the game cinematic model some time back and decided to make this illustration just for fun"



D



E

3DA: Do you think there is a shortage of skilled digital artists, and did you find it difficult getting into the industry?

AB: It depends, in my case it was not difficult at all, but I feel lucky in some way. I don't think there's a shortage of artists nowadays because there was when I started, but these days I'd say the industry is full of people styling themselves as digital artists, digital sculptors or character modellers. Nowadays, the truth is that 3D software technology and the internet have made the knowledge of computer graphics available to almost anybody who is interested in learning.

On the other side, as standards become higher there's a lot more specialisation. Today, the difficulty consists in finding people with an overall experience of character modelling, as most of them are digital sculpting specialists in only one software package, like ZBrush.

3DA: What are the key skills required to work as a character artist?

AB: A lot of passion and an eye for figure drawing, for sure. On the technical side, the knowledge of a 3D application and of a digital sculpting program like ZBrush and Mudbox, as these are becoming standard application in the work of a character artist. In many companies, the texturing and shading part is done by different artists (but they require the character modeller to prepare the UV sheets), but decent skill on those helps to understand the personality and mood of the character better.



F



G

D "The Aviator's Wife was a character I created for the short film 'Code Guardian', released in 2007 after five years of work by Marco Spitoni. This character appeared in a black-and-white

E "If I do something that is just decent for the requested standard of quality, I feel like I failed most of the time. But this philosophy has served me well so far"

F "The poster for *Gun* took a lot of effort to model, texture, shade and pose, but in the end, after several difficulties, it turned out great and was used for the marketing campaign massively"

G "This was the poster artwork for *Hellgate: London*. I had created the game cinematic model for *Blur* and decided to make an illustration with it"

+ The best course and freshest talent from universities around the globe...

University of Greenwich

BA (Hons) 3D-Digital Design and Animation course

If you're looking to study at a university in the London area, then the University of Greenwich could be the one for you. Situated on the south side of the famous River Thames, the university is close to Canary Wharf and offers great transport links into Central London.

Despite its modern university status awarded in 1992, the University of Greenwich is steeped in history. The main campus is located within the Old Royal Naval College grounds, which is actually a UNESCO World Heritage Site. The university has links dating back as far as 1890, when it was known as Britain's second ever polytechnic, providing practical training for London's workers. Many specialist organisations joined forces with the institution and helped mould it into a fantastic educator in subjects such as Teaching, Architecture, Engineering and History. In 1970 the institution was named Thames Polytechnic, which was then changed to the University of Greenwich in 1992.

BA (Hons) 3D-Digital Design and Animation is a well-regarded course that is aimed at individuals who are looking to enter the multimedia industry. With a strong focus on creative design and production, students can expect to learn a broad range of digital design skills, getting to grips with various software, hardware and creative processes used within the 3D industry. The course evolves primarily around design, with a big emphasis placed upon both thinking and working as a designer.



Course details

Tel +44 (0)20 8331 8000

Web www.gre.ac.uk

Duration Three years

Fees £3,720 a year

ENTRY REQUIREMENTS

230 UCAS points from A levels at grade C or above, or equivalent qualifications. At least three GCSEs at grade C or above (including English and Mathematics), or equivalent. Plus a creative portfolio and interview



Initially, the BA (Hons) 3D-Digital Design and Animation course focused on three-dimensional design and computer technology. This has somewhat evolved to now include a strong focus on animation and motion graphics, too. Students can expect to get involved with design projects for the creation of indoor and outdoor scenery, landscapes and buildings.

As well as keeping an eye on the most up-to-date software and practices, students will also receive thorough training on design history and theory. This is central to the training and aims to provide students with a solid knowledge of design. The animation part of the course is backed up with training on storyboarding and narrative to help students get to grips with the sequential aspect of 3D design.

This course helps train individuals who go on to careers in film, special effects, media and design, as well as games art. The University of Greenwich has produced students who are thriving within the 3D industry, both working in large companies as well as working freelance. Work by two of the current third-year students can be seen at <http://digitalstudio.gre.ac.uk/content/view/291/70/>.



“I have developed my technical and thinking skills greatly since joining the university and this has helped me”

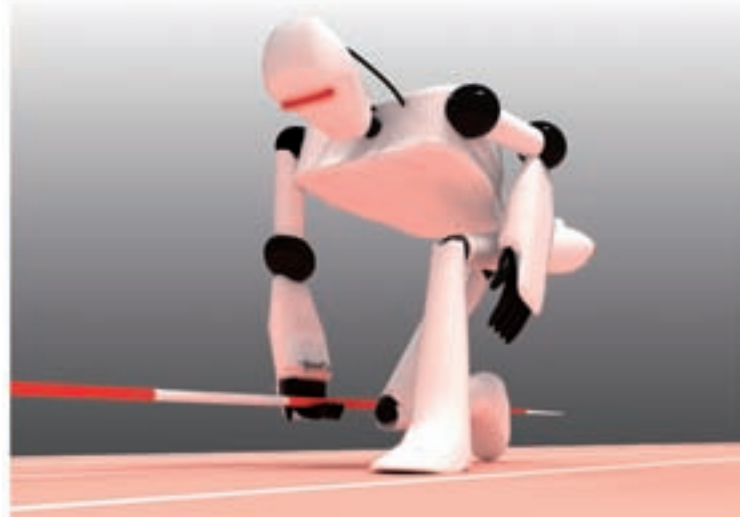
Maria Gramennou 2009

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B



C



D

A Corridor

» Maria Grammenou

Time taken: 40 hours

3ds Max

"I was always fascinated by the results that can be achieved in 3D visualisation. For this reason, I decided to study 3D-Digital Design and Animation at the University of Greenwich."

B Super Subs

» Sam Gordon

Time taken: 150 hours

3ds Max

"The course has taught us more than just how to use software; it covers a wide range of important skills, life drawing and film production for instance. The small group allows much more one-on-one teaching."

C Robot

» Maria Grammenou

Time taken: 15 hours

3ds Max

"The University of Greenwich has made me think about the relationships between the technical and the conceptual in the virtual world of 3D digital design."

D Cherry tree

» Philip Scadding

Time taken: 100 hours

3ds Max

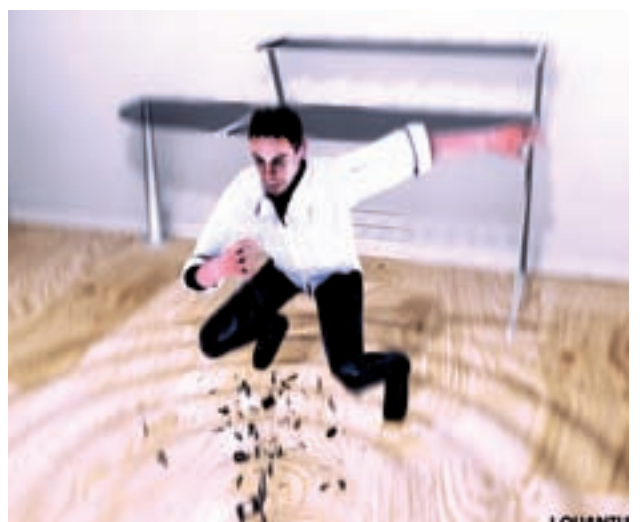
"I am 3D digital designer, and I specialize in modelling and texturing for characters and environments. However I very capable of animating, and producing concept art."



E



F



G

E Bone garden

» **Philip Scadding**

Time taken: 70 hours

3ds Max

"I've learnt a range of skills during the course, which has made my portfolio more diverse and has also given me a taste for all the elements of my practice, so I know where I'd like to specialise."

F Iquantum Pose

» **Mathieu Leborgne**

Time taken: 15 hours

3ds Max

"Through the course of my studies, I have become proficient in the use of 3ds Max, Maya and ZBrush, from which I have been able to create stunning photorealistic models."

G Iquantum Scene

» **Mathieu Leborgne**

Time taken: 15 hours

3ds Max

"Thanks to the expertise and assistance of my tutors, I have been able to undertake some significant projects (such as videogaming and short-length 3D animation), from which I have drastically increased own know-how in significant disciplines."

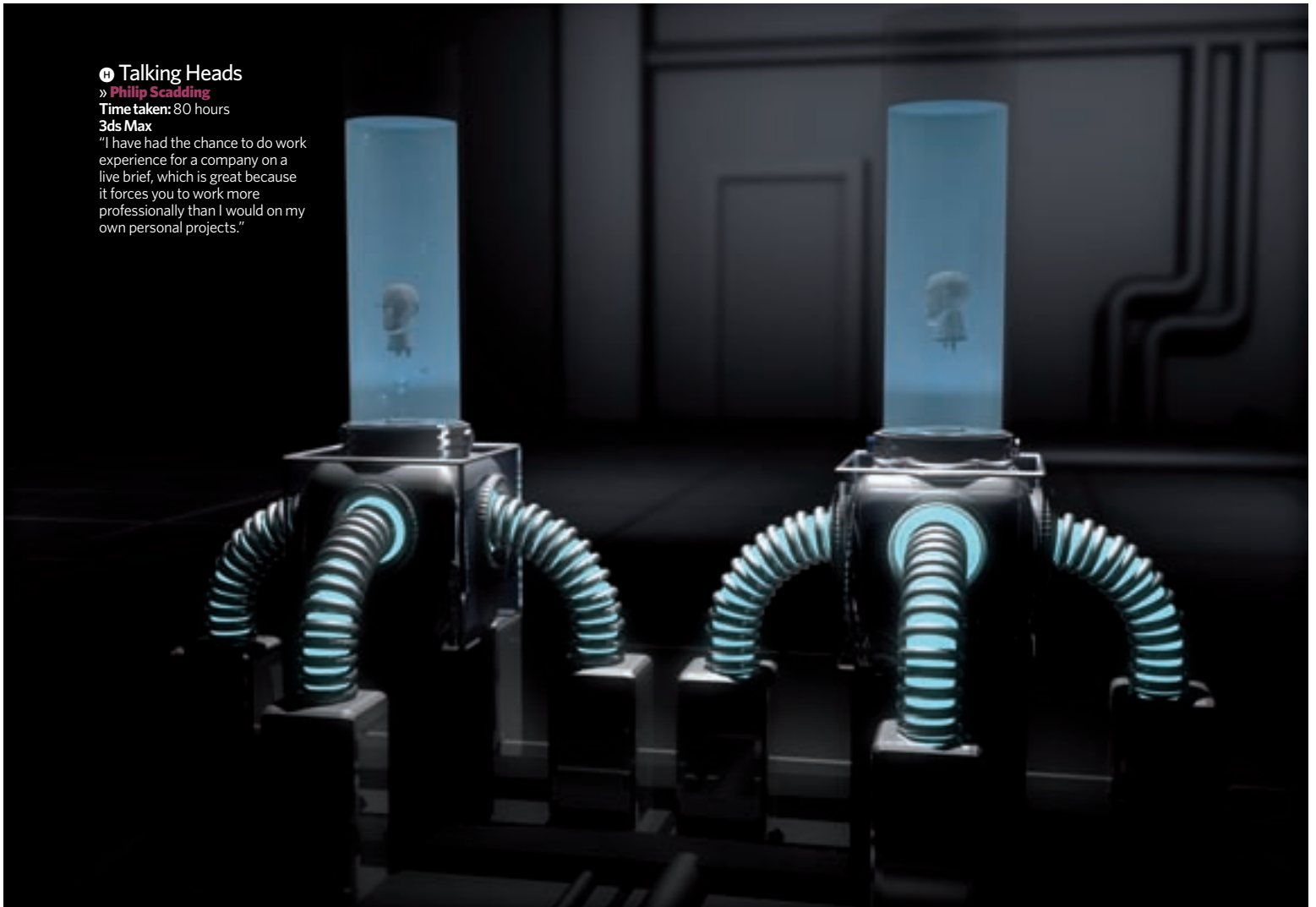
Ⓜ Talking Heads

» **Philip Scadding**

Time taken: 80 hours

3ds Max

"I have had the chance to do work experience for a company on a live brief, which is great because it forces you to work more professionally than I would on my own personal projects."



Ⓜ

Ⓜ Villa complex

» **Maria Grammenou**

Time taken: 35 hours

3ds Max

"I have developed my technical and thinking skills greatly since joining the university, and this has helped me with my ambition to be an architectural designer."



Ⓜ

Ⓜ Intonation

» **Sam Gordon**

Time taken: 60 hours

3ds Max

"The course has opened up an opportunity for industry work experience, which has helped provide me with contacts and experience."

“The course covers a wide range of important skills, life drawing and film production for instance”

Sam Gordon 2009

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+ Global student galleries

Check out the 3D galleries of students from courses and universities all around the world

Welcome to the Global student gallery section in 3D Artist where we showcase the best talent coming out of the educational establishments. Each issue we'll select the works of a few individuals who have produced interesting, exciting or just plain excellent work and showcase it here. Do you want your work to be showcased to 3D people in the UK, US and rest of the world? This is your chance to get noticed! You must be a student, whether that's full time, part time, by mail or online. All are equally valid. Also, if you graduated from a 3D graphics course within the last 12 months then that's great as well. In the first instance, get in touch with editor Duncan Evans (duncan.evans@imagine-publishing.co.uk), preferably with a link to your portfolio so he can have a quick look at your work. List your name, what university you went to and the course you did, or are doing.



Artist info



Chris Walker

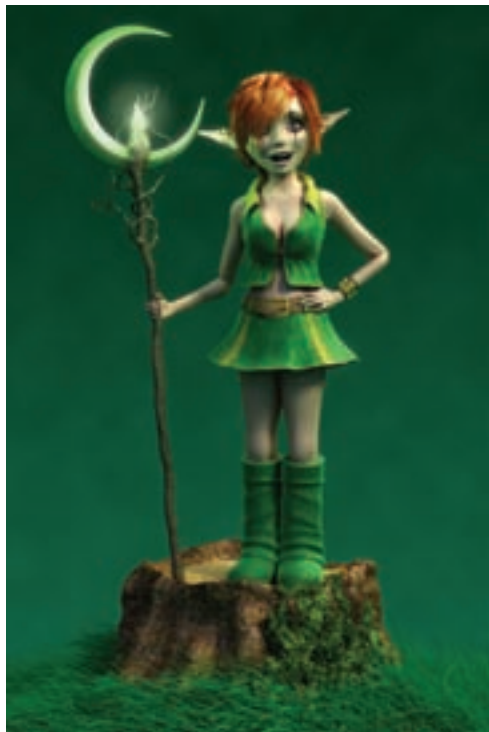
Personal portfolio site
<http://chriswalker.cgsociety.org/>

University website
www.shu.ac.uk

Country United Kingdom

Software used 3ds Max 2009, Photoshop CS3

I graduated last summer from Sheffield Hallam University with a degree in Multimedia and Communication Design, and am now enjoying a long-awaited career as a professional 3D artist.



A Riverbank Avenue

» **Chris Walker**

Time taken: Two weeks

3ds Max, Photoshop, V-Ray

"I wanted to create a personal version of the archetypal enchanted forest. I also tried to create an environment that looked lush and alive."

B Thralia

» **Chris Walker**

Time taken: Three weeks

3ds Max, Photoshop, V-Ray

"Thralia was a technical challenge for me at the time. It was the first time I set up a stretchy bone system for the facial animation."

C Vintage

» **Chris Walker**

Time taken: One week

3ds Max, Photoshop, V-Ray

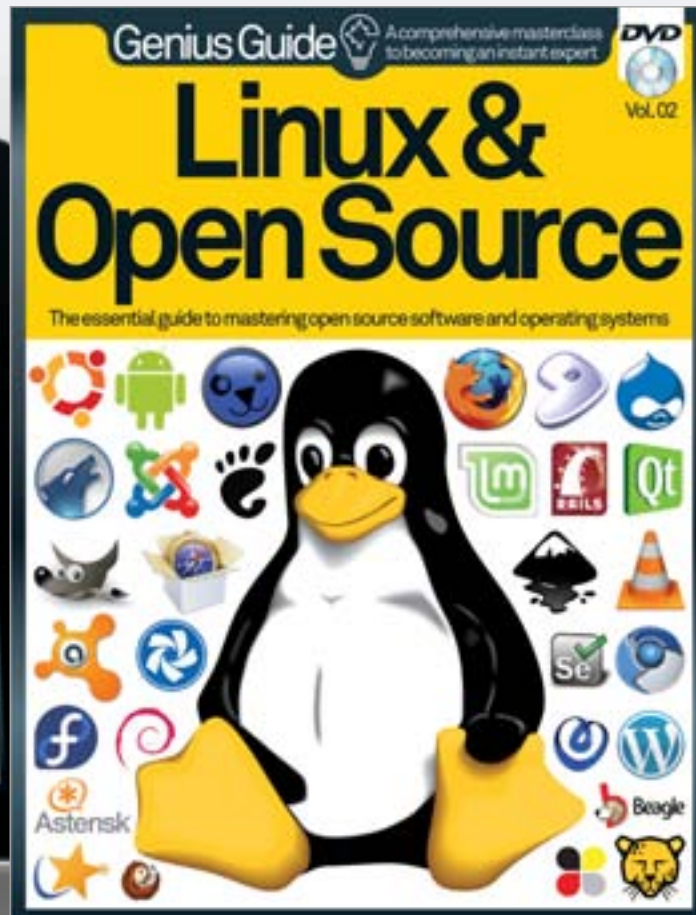
"Vintage was an exercise in photorealism. It was done over the course of a week a couple of years ago, and I'm still very proud of it."



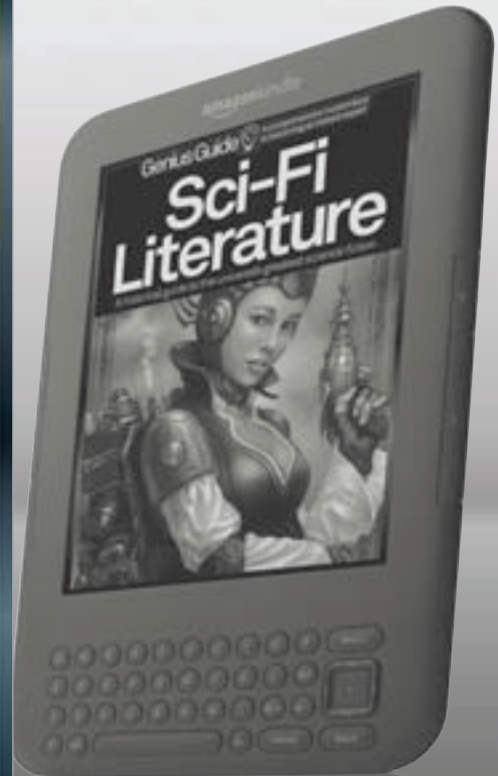
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